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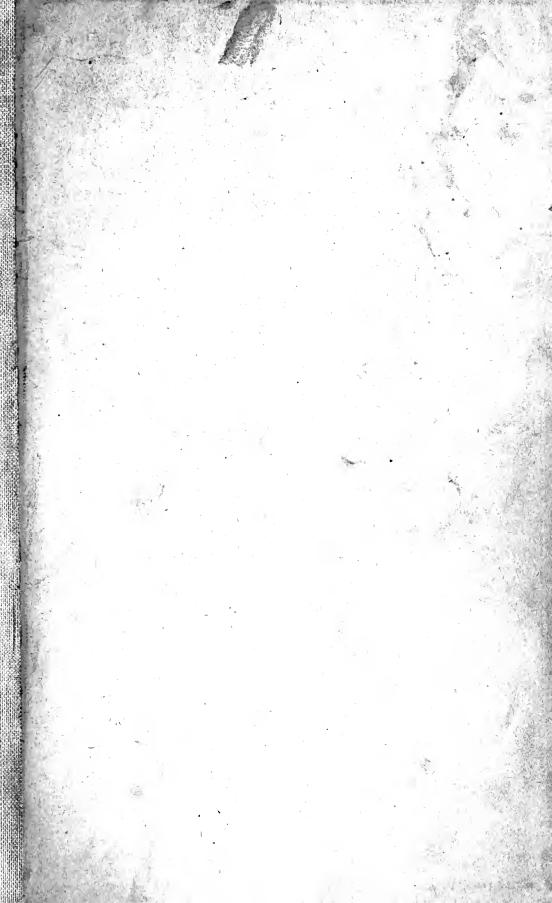
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## FIVE-PLACE LOGARITHMS

BY

### GEORGE WILLIAM JONES, A.M.,

PROFESSOR OF MATHEMATICS IN CORNELL UNIVERSITY.

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| LOGARITHMS OF NUMBERS A table of five-place logarithm          | •     |           | -<br>numbe | rs, with | -<br>diffe | -<br>erences fo | -<br>or a fift   | -<br>h figur |     | 2–19  |
|--|-------|-----------|------------|----------|------------|-----------------|------------------|--------------|-----|-------|
| TRIGONOMETRIC FUNCTION   |       | -         | -          | -        | -          |                 | -                |              |     | 20-64 |
| A table of natural sines, cosis<br>and of their five-place log |       |           |            | -        | -          |                 | 0°, to 1         | minute       | s,  |       |
| MINOR TABLES, -  |       | -         | -          | -        | -          | -               | -                | -            | pp. | 3–19  |
| 3, Natural Logarithms,   | 9, 1  | Mathemat  | ical Co    | nstants, |            | 15, Cub         | e Root           | s,           |     |       |
| 5, Ten-place Logarithms,                                       | 11, 1 | Meridions | l Parts,   |          |            | 17, Rec         | iprocal          | s,           |     |       |
| 7, Weights and Measures,                                       | 13, 8 | Square Ro | oots,      |          |            | 19, Sine        | s and '<br>Small |              |     |       |
|  |       |           |            |          |            |                 |                  |              |     |       |

These Tables are specially designed for use in the class-room; they are arranged in the usual way, and it is assumed that the teacher will give all needed explanations. To promote the detection of errors, a dollar will be paid for the first notice of each error. Address Professor Jones at Ithaca, N. Y.

FIRST EDITION.

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| 100  | 0               | 1    | 2    | 3                 | 4    | 5          | 6                 | 7                  | 8                 | 9                  |  | D        | iffe            | ren             | ces.           |            |
|------|-----------------|------|------|-------------------|------|------------|-------------------|--------------------|-------------------|--------------------|--|----------|-----------------|-----------------|----------------|------------|
|      | 00.000          | 0.12 | 087  | 130               | 173  | 217        | 260               | 303                | 246               | 389                | ĺ  |          |                 |                 |                |            |
| 100  | 00 000          | 043  |      | 561               | 604  | 647        | 689               | 732                | $\frac{346}{775}$ | 817                |  |          |                 |                 |                |            |
| 01   | 432             | 475  | 518  |                   | *030 | *072       | *115              | *157               |                   | *242               |  |          | 40              | 40              |                |            |
| 02   | 860             | 903  | 945  | 988               |      |            |                   |                    | *199              |                    | 1  | 44       | 43<br>4         | 42<br>4         | 41<br>4        | 40         |
| 03   | 01 284          | 326  | 368  | 410               | 452  | 494        | 536               | 578                | 620               | 662                | 2  | 9        | 9               | 8               | 8              | 8          |
| 04   | 703             | 745  | 787  | 828               | 870  | 912        | 953               | 995                | *036              | *078               | 3  | 13       | 13              | 13              | 12             | 12         |
| 05   | 02 119          | 160  | 202  | 243               | 284  | 325        | 366               | 407                | 449               | 490                | 4  | 18       | 17              | 17              | 16             | 16         |
| 06   | 531             | 572  | 612  | 653               | 694  | 735        | 776               | 816                | 857               | 898                | 5<br>6   | 22<br>26 | 22<br>26        | 21<br>25        | 21<br>25       | 20<br>24   |
| 07   | 938             | 979  | *019 | *060              | *100 | *141       | *181              | *222               | *262              | *302               | 7  | 31       | 30              | 29              | 29             | 28         |
| 08 * | 03 342          | 383  | 423  | 463               | 503  | 543        | 583               | 623                | 663               | 703                | 8  | 35       | 34              | 34              | 33             | 82         |
| 09   | 743             | 782  | 822  | $\bf 862$         | 902  | 941        | 981               | *021               | *060              | *100               | 9  | 40       | 39              | 38              | 37             | 36         |
| 110  | 04 139          | 179  | 218  | 258               | 297  | 336        | 376               | 415                | 454               | 493                |  |          |                 |                 |                |            |
| 11   | 532             | 571  | 610  | 650               | 689  | 727        | 766               | 805                | 844               | 883                |  |          |                 |                 |                |            |
| 12   | 922             | 961  | 999  | *038              | *077 | *115       | *154              | *192               | *231              | *269               |  | 39       | 38              | 37              | 36             | 35         |
| 13   | 05 308          | 346  | 385  | 423               | 461  | 500        | 538               | 576                | 614               | 652                | 1  | 4        | 4               | 4               | 4              | 4          |
| 14   | 690             | 729  | 767  | 805               | 843  | 881        | 918               | 956                | 994               | *032               | 3  | 8<br>12  | 8<br>11         | 7<br>11         | 7<br>11        | 11         |
| - 1  |                 |      |      |                   |      | 1          |                   |                    |                   |                    | 4  | 16       | 15              | 15              | 14             | 14         |
| 15   | 06 070          | 108  | 145  | 183               | 221  | 258        | 296               | 333                | 371               | 408                | 5  | 20       | 19              | 19              | 18             | 18         |
| 16   | 446             | 483  | 521  | 558               | 595  | 633        | 670               | 707                | 744               | 781                | 6  | 23       | 23              | 22              | 22             | 21         |
| 17   | 819             | 856  | 893  | 930               | 967  | *004       | *041              | *078               | *115              | *151               | 8  | 27<br>31 | 27<br>30        | $\frac{26}{30}$ | 25<br>29       | 25<br>25   |
| 18   | 07 188          | 225  | 262  | 298               | 335  | 372        | 408               | 445                | 482               | 518                | 9  | 35       | 34              | 33              | 32             | 32         |
| 19   | 555             | 591  | 628  | 664               | 700  | 737        | 773               | 809                | 846               | 882                |  |          |                 |                 |                |            |
| 120  | 07 918          | 954  | 990  | *027              | *063 | *099       | *135              | *171               | *207              | *243               |  |          |                 |                 |                |            |
| 21   | 08 279          | 314  | 350  | 386               | 422  | 458        | 493               | 529                | 565               | 600                |  |          | 00              | •               |                |            |
| 22   | 636             | 672  | 707  | 743               | 778  | 814        | 849               | 884                | 920               | 955                | 1  | 34<br>3  | 33<br>3         | 32<br>3         | 31<br>3        | <b>3</b> 0 |
| 23   | 991             | *026 | *061 | *096              | *132 | *167       | *202              | *237               | *272              | *307               | 2  | 7        | 7               | 6               | 6              | 6          |
| 24   | 09 342          | 377  | 412  | 447               | 482  | 517        | 552               | 587                | 621               | 656                | 3  | 10       | 10              | 10              | 9              | 9          |
|      |                 |      |      |                   |      |            |                   |                    |                   |                    | 4  | 14       | 13              | 13              | 12             | 12         |
| 25   | 691             | 726  | 760  | 795               | 830  | 864        | 899               | 934                | 968               | *003               | 5<br>6   | 17<br>20 | 17<br>20        | 16<br>19        | 16<br>19       | 15<br>18   |
| 26   | 10 037          | 072  | 106  | 140               | 175  | 209        | 243               | 278                | 312               | 346                | 7  | 24       | 23              | 22              | 22             | 21         |
| 27   | 380             | 415  | 449  | 483               | 517  | 551        | 585               | 619                | 653               | 687                | 8  | 27       | 26              | 26              | 25             | 24         |
| 28   | 721             | 755  | 789  | 823               | 857  | 890        | 924               | 958                | 992               | *025               | 9  | 31       | 30              | 29              | 28             | 27         |
| 29   | $11\ 059$       | 093  | 126  | 160               | 193  | 227        | 261               | 294                | 327               | 361                |  |          |                 |                 |                |            |
| 130  | $11\ 394$       | 428  | 461  | 494               | 528  | 561        | 594               | 628                | 661               | $\boldsymbol{694}$ |  |          |                 |                 |                |            |
| 31   | 727             | 760  | 793  | 826               | 860  | 893        | 926               | 959                | 992               | *024               |  | 29       | 28              | 27              | 26             | 25         |
| 32   | 12 057          | 090  | 123  | 156               | 189  | 222        | 254               | 287                | 320               | 352                | $\begin{array}{ c c }\hline 1\\ 2 \end{array}$ | 3        | 8               | 3               | 3              | 8          |
| 33   | 385             | 418  | 450  | 483               | 516  | 548        | 581               | 613                | 646               | 678                | 3  | 6<br>9   | 6<br>8          | 5<br>8          | 5<br>8         | 5          |
| 34   | 710             | 743  | 775  | 808               | 840  | 872        | 905               | 937                | 969               | *001               | 4  | 12       | 11              | 11              | 10             | 10         |
| 35   | 19 699          | 066  | 098  | 190               | 162  | 104        | 226               | 258                | 290               | 322                | 5  | 15       | 14              | 14              | 13             | 18         |
| 36   | $13\ 033$ $354$ | 386  | 418  | 130<br>450        | 481  | 194        |                   |                    | 609               |                    | 6  | 17       | 17              | 16              | 16             | 15         |
| 37   | 672             | 704  | 735  | $\frac{450}{767}$ | 799  | 513<br>830 | $\frac{545}{862}$ | 577<br>893         | 925               | 640 $956$          | 7<br>8   | 20<br>23 | $\frac{20}{22}$ | 19<br>22        | 18<br>21       | 18<br>20   |
| 38   | 988             | *019 | *051 | *082              | *114 | *145       | *176              | *208               | *239              | *270               | 9  | 26       | 25              | 24              | 23             | 23         |
| 39   | 14 301          |      |      | 395               |      |            | 489               | 520                |                   |                    |  |          |                 |                 |                |            |
| 00   |                 | 333  | 364  |                   | 426  | 457        |                   | 520                | 551               | 582                |  |          |                 |                 |                |            |
| 140  | 14 613          | 644  | 675  | 706               | 737  | 768        | 799               | 829                | 860               | 891                |  | 0.1      | 00              | 00              | 01             |            |
| 41   | 922             | 953  | 983  | *014              | *045 | *076       | *106              | *137               | *168              | *198               | 1  | 24       | 23<br>2         | $\frac{22}{2}$  | $\frac{21}{2}$ |            |
| 42   | 15 229          | 259  | 290  | 320               | 351  | 381        | 412               | $\boldsymbol{442}$ | 473               | 503                | 2  | 5        | 5               | 4               | 4              |            |
| 43   | 534             | 564  | 594  | 625               | 655  | 685        | 715               | 746                | 776               | 806                | 3  | 7        | 7               | 7               | 6              |            |
| 44   | 836             | 866  | 897  | 927               | 957  | 987        | *017              | *047               | *077              | *107               | 4  | 10       | 9               | 9               | 8              |            |
| 45   | 16 137          | 167  | 197  | 227               | 256  | 286        | 316               | 346                | 376               | 406                | 5<br>6   | 12<br>14 | 12<br>14        | 11<br>13        | 11<br>13       |            |
| 46   | 435             | 465  | 495  | 524               | 554  | 584        | 613               | 643                | 673               | 702                | 7  | 17       | 16              | 15              | 15             |            |
| 47   | 732             | 761  | 791  | 820               | 850  | 879        | 909               | 938                | 967               | 997                | 8  | 19       | 18              | 18              | 17             |            |
| 48   | 17 026          | 056  | 085  | 114               | 143  | 173        | 202               | 231                | 260               | 289                | 9  | 22       | 21              | 20              | 19             |            |
| 49   | 319             | 348  | 377  | 406               | 435  | 464        | 493               | $\frac{231}{522}$  | 551               | 580                |  |          |                 |                 |                |            |
|      | 010             | 5.10 | 011  | 3.779             | 100  | 101        | 700               |                    |                   |                    |  |          |                 |                 |                |            |
| 150  | 0.              | 1    | 2    | 3                 | 4    | 5          | 6                 | 7                  | 8                 | 9                  |  | Di       | ffe             | en              | ces            |            |

| 150        | 0             | 1   | 2                 | 3    | 4         | 5    | 6           | 7                 | 8                 | 9    | NA'   | FURAL :     | LOGA     | RITHM    |
|------------|---------------|-----|-------------------|------|-----------|------|-------------|-------------------|-------------------|------|-------|-------------|----------|----------|
| 150        | 17 000        | 638 | 0.07              | 000  | 705       |      | <b>F</b> 00 | 0.1.1             | 0.40              | 0.20 | Num.  | Log.        | Num.     | Log.     |
| 51         | 17 609<br>898 | 926 | $667 \\ 955$      | 696  | 725       | 754  | 782<br>*070 | 811               | 840               | 869  | 0     | 00          | 50       | 3.91 20  |
| 52         |               | 213 | $\frac{555}{241}$ | 984  | *013      | *041 |             | *099              | *127              | *156 | 1     | 0.00 000    | 51       | 3.93 18  |
|            | 18 184        | 498 |                   | 270  | 298       | 327  | 355         | 384               | 412               | 441  | 2     | 0.69 315    | 52       | 3.95 12  |
| 53         | 469           |     | 526               | 554  | 583       | 611  | 639         | 667               | 696               | 724  | 3     | 1.09 861    | 53       | 3.97 02  |
| 54         | 752           | 780 | 808               | 837  | 865       | 893  | 921         | 949               | 977               | *005 | 4     | 1.38 629    | 54       | 3.98 89  |
| 55         | 19 033        | 061 | 089               | 117  | 145       | 173  | 201         | 229               | 257               | 285  | 5     | 1.60 944    | 55       | 4.00 73  |
| 56         | 312           | 340 | 368               | 396  | $\bf 424$ | 451  | 479         | 507               | 535               | 562  | 6     | 1.79 176    | 56       | 4.02 53  |
| 57         | 590           | 618 | 645               | 673  | 700       | 728  | 756         | 783               | 811               | 838  | 7     | 1.94 591    | 57       | 4.04 30  |
| 58         | 866           | 893 | 921               | 948  | 976       | *003 | *030        | *058              | *085              | *112 | 8     | 2.07 944    | 58       | 4.06 04  |
| 59         | 20 140        | 167 | 194               | 222  | 249       | 276  | 303         | 330               | 358               | 385  | 9     | 2.19 722    | 59       | 4.07 75  |
| 160        | 20 412        | 439 | 466               | 493  | 520       | 548  | 575         | 602               | 629               | 656  | 10    | 2.30 259    | 60       | 4.09 43  |
| 61         | 683           | 710 | 737               | 763  | 790       | 817  | 844         | 871               | 898               | 925  | 11    | 2.39 790    | 61       | 4.11 08  |
| 62         | 952           | 978 | *005              | *032 | *059      | *085 | *112        | *139              | *165              | *192 | 12    | 2.48 491    | 62       | 4.12 71  |
| 63         | 21 219        | 245 | 272               | 299  | 325       | 352  | 378         | 405               |                   | 458  | 1     |             |          |          |
| 64         | 484           | 511 | 537               | 564  | , 590     | 617  | 643         | 669               | $\frac{431}{696}$ | 722  | 13    | 2.56 495    | 63<br>64 | 4.14 81  |
|            |               |     |                   |      |           |      |             |                   |                   |      |       | 2.63 906    | 64       | 4.15 88  |
| 65         | 748           | 775 | 801               | 827  | 854       | 880  | 906         | 932               | 958               | 985  | 15    | 2.70 805    | 65       | 4.17 43  |
| 66         | 22 011        | 037 | 063               | 089  | 115       | 141  | 167         | 194               | 220               | 246  | 16    | 2.77 259    | 66       | 4.18 96  |
| 67         | 272           | 298 | 324               | 350  | 376       | 401  | 427         | 453               | 479               | 505  | 17    | 2.83 321    | 67       | 4.20 46  |
| 68         | 531           | 557 | 583               | 608  | 634       | 660  | 686         | 712               | 737               | 763  | 18    | 2.89 037    | 68       | 4.21 95  |
| 69         | 789           | 814 | 840               | 866  | 891       | 917  | 943         | 968               | 994               | *019 | 19    | 2.94 444    | 69       | 4.23 41  |
| 170        | 23 045        | 070 | 096               | 121  | 147       | 172  | 198         | 223               | 249               | 274  | 20    | $2.99\ 573$ | 70       | 4.24 85  |
| 71         | 300           | 325 | 350               | 376  | 401       | 426  | 452         | 477               | 502               | 528  | 21    | $3.04\ 452$ | 71       | 4.26 26  |
| 72         | 553           | 578 | 603               | 629  | 654       | 679  | 704         | 729               | 754               | 779  | 22    | 3.09 104    | 72       | 4.27 66  |
| 73         | 805           | 830 | 855               | 880  | 905       | 930  | 955         | 980               | *005              | *030 | 23    | 3.13 549    | 73       | 4.29 04  |
| 74         | $24\ 055$     | 080 | 105               | 130  | 155       | 180  | 204         | $\frac{330}{229}$ | 254               | 279  | 24    | 3.17 805    | 74       | 4.30 40  |
|            |               |     |                   |      |           |      |             |                   |                   | 210  | 25    | 3.21 888    | 75       | 4.31 74  |
| 75         | 304           | 329 | 353               | 378  | 403       | 428  | 452         | 477               | 502               | 527  | 26    | 3.25 810    | 76       | 4.33 07  |
| 76         | 551           | 576 | 601               | 625  | 650       | 674  | 699         | 724               | 748               | 773  | 27    | 3.29 584    | 77       | 4.34 38  |
| 77         | 797           | 822 | 846               | 871  | 895       | 920  | 944         | 969               | 993               | *018 | 28    | 3.33 220    | 78       | 4.35 67  |
| 78         | 25 042        | 066 | 091               | 115  | 139       | 164  | 188         | 212               | 237               | 261  | 29    | 3.36 730    | 79       | 4.36-94  |
| 79         | 285           | 310 | 334               | 358  | 382       | 406  | 431         | 455               | 479               | 503  | 1     |             |          |          |
| 180        | 25 527        | 551 | 575               | 600  | 624       | 648  | 672         | 696               | 720               | 744  | 30    | 3.40 120    | 80       | 4.38 20  |
| 81         | 768           | 792 | 816               | 840  | 864       | 888  | 912         | 935               | 959               | 983  | 31    | 3.43 399    | 81       | 4.39 44  |
| 82         | 26 007        | 031 | 055               | 079  | 102       | 126  | 150         | 174               | 198               | 221  | 32    | 3.46 574    | 82       | 4.40 67  |
| 83         | 245           | 269 | 293               | 316  | 340       | 364  | 387         | 411               | 435               | 458  | 33    | 3.49 651    | 83       | 4.41 88  |
| 84         | 482           | 505 | 529               | 553  | 576       | 600  | 623         | 647               | 670               | 694  | 34    | 3.52 636    | 84       | 4.43.08  |
| i          |               |     |                   |      |           |      |             |                   |                   |      | 35    | 8.55 585    | 85       | 4.44 26  |
| 85         | 717           | 741 | 764               | 788  | 811       | 834  | 858         | 881               | 905               | 928  | 36    | $3.58\ 352$ | 86       | 4.45 43  |
| 86         | 951           | 975 | 998               | *021 | *045      | *068 | *091        | *114              | *138              | *161 | 37    | $3.61\ 092$ | 87       | 4.46 59  |
| 87         | 27 184        | 207 | 231               | 254  | 277       | 300  | 323         | 346               | 370               | 393  | 38    | 3.63 759    | 88       | 4.47 73  |
| 88         | 416           | 439 | 462               | 485  | 508       | 531  | 554         | 577               | 600               | 623  | 39    | $3.66\ 356$ | 89       | 4.48 86  |
| 89         | 646           | 669 | 692               | 715  | 738       | 761  | 784         | 807               | 830               | 852  | 40    | 3.68 888    | 90       | 4.49 98  |
| 190        | 27 875        | 898 | 921               | 944  | 967       | 989  | *012        | *035              | *058              | *081 | 41    | 3.71 357    | 91       | 4.51 08  |
| 91         | 28 103        | 126 | 149               | 171  | 194       | 217  | 240         | 262               | 285               | 307  | 42    | 3.73 767    | 92       | 4.52 17  |
| 92         | 330           | 353 | 375               | 398  | 421       | 443  | 466         | 488               | 511               | 533  | 43    | 3,76 120    | 98       | 4.53 26  |
| 93         | 556           | 578 | 601               | 623  | 646       | 668  | 691         | 713               | 735               | 758  | 44    | 3.78 419    | 94       | 4.54 32  |
| 94         | 780           | 803 | 825               | 847  | 870       | 892  | 914         | 937               | 959               | 981  |       | 3.80 666    |          |          |
| 1          |               |     |                   |      |           |      |             |                   |                   |      | 45    |             | 95<br>96 | 4.55 38  |
| 95         | 29 003        | 026 | 048               | 070  | 092       | 115  | 137         | 159               | 181               | 203  | 46    | 3.82 864    | 96       | 4.56 48  |
| 96         | 226           | 248 | 270               | 292  | 314       | 336  | 358         | 380               | 403               | 425  | 47    | S.85 015    | 97       | 4.57 47  |
| 97         | 447           | 469 | 491               | 513  | 535       | 557  | 579         | 601               | 623               | 645  | 48    | 3.87 120    | 98       | 4.58 49  |
| 98         | 667           | 688 | 710               | 732  | 754       | 776  | 798         | 820               | 842               | 863  | 49    | 3.89 182    | 99       | 4.59 515 |
| 99         | 885           | 907 | 929               | 951  | 973       | 994  | *016        | *038              | *060              | *081 | 50    | 3.91 202    | 100      | 4.60 51  |
| 000        |               | ·   |                   |      | ,         |      |             |                   |                   |      |       | W.D         | 0017     | · my     |
| $200 \mid$ | 0             | 1   | 2                 | 3    | 4         | 5    | 6           | 7                 | 8                 | 9    | 1 NAT | URAL I      | .0GAI    | CITH M   |

| 200 | 0          | 1 .        | 2                 | 3          | 4                 | 5    | 6                 | 7                 | 8                 | 9  | Differences.       |
|-----|------------|------------|-------------------|------------|-------------------|------|-------------------|-------------------|-------------------|--|--------------------|
| 200 | 30 103     | 125        | 146               | 168        | 190               | 211  | 233               | 255               | 276               | 298  |                    |
| 01  | 320        | 341        | 363               | 384        | 406               | 428  | 449               | 471               | 492               | 514  |                    |
| 02  | 535        | 557        | 578               | 600        | 621               | 643  | 664               | 685               | 707               | 728  | 22 21              |
| 03  | 750        | 771        | 792               | 814        | 835               | 856  | 878               | 899               | 920               | 942  | 1 2 2              |
| 04  | 963        | 984        | *006              | *027       | *048              | *069 | *091              | *112              | *133              | *154                                       | 2 4 4              |
| 0.4 |            |            |                   |            |                   |      |                   |                   |                   |  | 8 7 6<br>4 9 8     |
| 05  | 31 175     | 197        | 218               | 239        | 260               | 281  | 302               | 323               | 345               | 366  | 5 11 11            |
| 06  | 387        | 408        | 429               | 450        | 471               | 492  | 513               | 534               | 555               | 576  | 6 13 13            |
| 07  | 597        | 618        | 639               | 660        | 681               | 702  | 723               | 744               | 765               | 785  | 7 15 15            |
| 08  | 806        | 827        | 848               | 869        | 890               | 911  | 931               | <b>952</b>        | 973               | <b>994</b>                                 | 8 18 17<br>9 20 19 |
| 09  | 32 015     | 035        | 056               | 077        | 098               | 118  | 139               | 160               | 181               | 201  | 3 20 13            |
| 210 | 32 222     | 243        | 263               | 284        | 305               | 325  | 346               | <b>'</b> 366      | 387               | 408  |                    |
| 11  | 428        | 449        | 469               | 490        | 510               | 531  | 552               | 572               | 593               | 613  | 20 19              |
| 12  | 634        | 654        | 675               | 695        | 715               | 736  | 756               | 777               | 797               | 818  | 1 2 2              |
| 13  | 838        | 858        | 879               | 899        | 919               | 940  | 960               | 980               |                   | *021                                       | 2 4 4              |
| 14  | 33 041     | 062        | 082               | 102        | 122               | 143  | 163               | 183               | 203               | <b>224</b>                                 | 8 6 6<br>4 8 8     |
| 15  | 244        | 264        | 284               | 304        | 325               | 345  | 365               | 385               | 405               | <b>425</b>                                 | 5 10 10            |
| 16  | 445        | 465        | 486               | 506        | 526               | 546  | 566               | 586               | 606               | 626  | 6 12 11            |
| 17  | 646        | 666        | 686               | 706        | 726               | 746  | 766               | 786               | 806               | 826  | 7 14 18            |
| 18  | 846        | 866        | 885               | 905        | 925               | 945  | 965               | 985               | *005              | *025                                       | 8 16 15<br>9 18 17 |
| 19  | 34 044     | 064        | 084               | 104        | 124               | 143  | 163               | 183               | 203               | 223  |                    |
| 220 | 34 242     | 262        | 282               | 301        | 321               | 341  | 361               | 380               | 400               | 420  |                    |
| 21  | 439        | 459        | 479               | 498        | 518               | 537  | 557               | 577               | 596               | 616  | 18 17              |
| 22  | 635        | 655        | 674               | 694        | 713               | 733  | 753               | 772               | 792               | 811  | 1 2 2              |
| 23  | 830        | 850        | 869               | 889        | 908               | 928  | 947               | 967               | 986               | *005                                       | 2 4 8 8 5 5        |
| 24  | 35 025     | 044        | 064               | 083        | 102               | 122  | 141               | 160               | 180               | 199  | 3 5 5<br>4 7 7     |
| 25  | 218        | 238        | 257               | 276        | 295               | 315  | 334               | 353               | 372               | 392  | 5 9 9              |
| 26  | 411        | 430        | 449               | 468        | 488               | 507  | 526               | 545               | 564               | 583  | 6 11 10<br>7 13 12 |
| 27  | 603        | 622        | 641               | 660        | 679               | 698  | 717               | 736               | 755               | 774  | 8 14 14            |
| 28  | 793        | 813        | 832               | 851        | 870               | 889  | 908               | 927               | 946               | 965  | 9 16 15            |
| 29  | 984        | *003       | *021              | *040       | *059              | *078 | *097              | *116              | *135              | *154                                       |                    |
| 230 | 36 173     | 192        | 211               | 229        | 248               | 267  | 286               | 305               | 324               | 342  |                    |
| 31  | 361        | 380        | 399               | 418        | 436               | 455  | 474               | 493               | 511               | 530  | 16 15              |
| 32  | 549        | 568        | 586               | 605        | 624               | 642  | 661               | 680               | 698               | 717  | 1 2 2 2 2 3 8      |
| 33  | 736        | 754        | 773               | 791        | 810               | 829  | 847               | 866               | 884               | 903  | 8 5 5              |
| 34  | 922        | 940        | 959               | 977        | 996               | *014 | *033              | *051              | *070              | *088                                       | 4 6 6              |
| 35  | 37 107     | 125        | 144               | 162        | 181               | 199  | 218               | 236               | 254               | 273  | 5 8 8<br>6 10 9    |
| 36  | 291        | 310        | 328               | 346        | 365               | 383  | 401               | 420               | 438               | 457  | 7 11 11            |
| 37  | 475        | 493        | 511               | 530        | 548               | 566  | 585               | 603               | 621               | 639  | 8 13 12<br>9 14 14 |
| 38  | 658        | 676        | 694               | 712        | 731               | 749  | 767               | 785               | 803               | 822  | J 11 11            |
| 39  | 840        | 858        | 876               | 894        | 912               | 931  | 949               | 967               | 985               | *003                                       |                    |
| 240 | 38 021     | 039        | 057               | 075        | 093               | 112  | 130               | 148               | 166               | 184  | 14                 |
| 41  | 202        | 220        | 238               | 256        | 274               | 292  | 310               | 328               | 346               | 364  | 1 1                |
| 42  | 382        | 399        | 417               | 435        | 453               | 471  | 489               | 507               | 525               | 543  | 2 8                |
| 43  | 561        | 578        | 596               | 614        | 632               | 650  | 668               | 686               | 703               | 721  | 3 4<br>4 6         |
| 44  | 739        | 757        | 775               | 792        | 810               | 828  | 846               | 863               | 881               | 899  | 5 7                |
|     |            |            |                   |            |                   |      |                   |                   |                   |  | 6 8                |
| 45  | 917        | 934        | 952               | 970        | 987               | *005 | *023              | *041              | *058              | $\begin{array}{c} *076 \\ 252 \end{array}$ | 7 10<br>8 11       |
| 46  | 39 094     | 111        | 129               | 146        | 164               | 182  | 199               | 217               | 235               |  | 9 18               |
| 47  | 270        | 287        | 305               | 322        | 340               | 358  | 375               | 393               | 410               | 428  |                    |
| 48  | 445<br>620 | 463<br>637 | $\frac{480}{655}$ | 498<br>672 | $\frac{515}{690}$ | 533  | $\frac{550}{724}$ | $\frac{568}{742}$ | $\frac{585}{759}$ | $\frac{602}{777}$                          |                    |
|     | 320        | 991        | 000               | 914        | 300               | 101  | 124               | 132               | 100               |  |                    |
|     |            | 1          | <b>2</b>          | 3          | 4                 | 5    | 6                 | 7                 | 8                 | 9  | Differences.       |

| 250 | 0         | 1     | 2              | 3    | 4          | 5    | 6           | .7          | 8          | 9    | TEN-PLA | CE LOGARITHMS |
|-----|-----------|-------|----------------|------|------------|------|-------------|-------------|------------|------|---------|---------------|
| 250 | 39 794    | 811   | 829            | 846  | 863        | 881  | 898         | 915         | 933        | 950  | Num.    | Log.          |
| 51  | 967       | 985   | *002           | *019 | *037       | *054 | *071        | *088        | *106       | *123 | 2       | .301 029 9957 |
| 52  | 40 140    | 157   | 175            | 192  | 209        | 226  | 243         | 261         | 278        | 295  | 3       | .477 121 2547 |
| 53  | 312       | 329   | 346            | 364  | 381        | 398  | 415         | 432         | 449        | 466  | 5       | .698 970 0043 |
|     |           |       |                |      | 552        | 569  |             |             |            |      | 7       | .845 098 0400 |
| 54  | 483       | 500   | 518            | 535  | 334        | 309  | 586         | 603         | 620        | 637  | 11      | .041 392 6852 |
| 55  | 654       | 671   | 688            | 705  | 722        | 739  | 756         | 773         | 790        | 807  | 13      | .113 943 8528 |
| 56  | 824       | 841   | 858            | 875  | 892        | 909  | 926         | 943         | 960        | 976  | 17      | .230 448 9214 |
| 57  | 993       | *010  | *027           | *044 | *061       | *078 | *095        | *111        | *128       | *145 | 19      | .278 753 6010 |
| 58  | $41\ 162$ | 179   | 196            | 212  | 229        | 246  | 263         | 280         | 296        | 313  | 23      | .361 727 8360 |
| 59  | 330       | 347   | 363            | 380  | 397        | 414  | 430         | 447         | 464        | 481  | 29      | .462 397 9979 |
| 260 | 41.407    | 514   | 531            | 547  | 564        | 581  | 597         | 614         | 631        | 647  | 1       |               |
|     | 41 497    |       |                |      |            |      |             | 780         | 797        | 814  | 31      | .491 361 6938 |
| 61  | 664       | 681   | 697            | 714  | 731        | 747  | 764         |             |            |      | 37      | .568 201 7241 |
| 62  | 830       | 847   | 863            | 880  | 896        | 913  | 929         | 946         | 963        | 979  | 41      | .612 783 8567 |
| 63  | 996       | *012  | *029           | *045 | *062       | *078 | *095        | *111        | *127       | *144 | 43      | .633 468 4556 |
| 64  | $42\ 160$ | . 177 | 193            | 210  | 226        | 243  | 259         | 275         | 292        | 308  | 47      | .672 097 8579 |
| 65  | 325       | 341   | 357            | 374  | 390        | 406  | 423         | 439         | <b>455</b> | 472  | 58      | .724 275 8696 |
| 66  | 488       | 504   | 521            | 537  | 553        | 570  | 586         | 602         | 619        | 635  | 59      | .770 852 0116 |
| 67  | 651       | 667   | 684            | 700  | 716        | 732  | 749         | 765         | 781        | 797  | 61      | .785 329 8350 |
| 68  | 813       | 830   | 846            | 862  | 878        | 894  | 911         | 927         | 943        | 959  | 67      | .826 074 8027 |
| 69  | 975       | 991   | *008           | *024 | *040       | *056 | *072        | *088        | *104       | *120 | 71      | .851 258 3487 |
|     |           |       |                |      |            |      |             |             |            |      | 73      | .863 322 8601 |
| 270 | $43\ 136$ | 152   | 169            | 185  | 201        | 217  | 233         | 249         | 265        | 281  |         |               |
| 71  | 297       | 313   | <b>329</b>     | 345  | 361        | 377  | 393         | 409         | <b>425</b> | 441  | 79      | .897 627 0913 |
| 72  | 457       | 473   | 489            | 505  | 521        | 537  | 553         | <b>5</b> 69 | 584        | 600  | 83      | .919 078 0924 |
| 73  | 616       | 632   | 648            | 664  | 680        | 696  | 712         | 727         | 743        | 759  | 89      | .949 390 0066 |
| 74  | 775       | 791   | 807            | 823  | 838        | 854  | 870         | 886         | 902        | 917  | 97      | .986 771 7843 |
| 75  | 933       | 949   | 965            | 981. | 996        | *012 | *028        | *044        | *059       | *075 | 101     | .004 321 3738 |
| 76  | 44 091    | 107   | 122            | 138  | 154        | 170  | 185         | 201         | 217        | 232  | 103     | .012 837 2247 |
| 77  | 248       | 264   | 279            | 295  | 311        | 326  | 342         | 358         | 373        | 389  | 107     | .029 383 7777 |
| 78  | 404       | 420   | 436            | 451  | 467        | 483  |             | 514         | 529        | 545  | 109     | .037 426 4979 |
| 1   | 560       | 576   | 592            | 607  | 623        | 638  | 654         | 669         | 685        | 700  | 113     | .053 078 4435 |
| 79  | 300       | 310   | 002            | 001  | 025        | 030  | 004         | 000         | 000        | •00  | 127     | .103 803 7210 |
| 280 | 44 716    | 731   | 747            | 762  | 778        | 793  | 809         | 824         | 840        | 855  | 131     | .117 271 2957 |
| 81  | 871       | 886   | 902            | 917  | 932        | 948  | 963         | 979         | 994        | *010 | 137     | .136 720 5672 |
| 82  | 45 025    | 040   | 056            | 071  | 086        | 102  | 117         | 133         | 148        | 163  | 139     | .143 014 8003 |
| 83  | 179       | 194   | 209            | 225  | 240        | 255  | 271         | 286         | 301        | 317  | 149     | .173 186 2684 |
| 84  | 332       | 347   | 362            | 378  | 393        | 408  | 423         | 439         | <b>454</b> | 469  |         |               |
| 0.5 | 404       | 500   | 515            | 530  | 545        | 561  | 576         | 591         | 606        | 621  | 151     | .178 976 9478 |
| 85  | 484       |       |                |      |            | 1    |             |             | 758        | 773  | 157     | .195 899 6524 |
| 86  | 637       | 652   | 667            | 682  | 697        | 712  | 728         | 743         |            |      | 163     | .212 187 6044 |
| 87  | 788       | 803   | 818            | 834  | 849        | 864  | 879<br>*020 | 894         | 909        | 924  | 167     | .222 716 4711 |
| 88  | 939       | 954   | 969            | 984  | *000       | *015 | *030        | *045        | *060       | *075 | 173     | .238 046 1031 |
| 89  | 46 090    | 105   | 120            | 135  | 150        | 165  | 180         | 195         | 210        | 225  | 179     | .252 853 0310 |
| 290 | 46 240    | 255   | 270            | 285  | 300        | 315  | 330         | 345         | 359        | 374  | 181     | .257 678 5749 |
| 91  | 389       | 404   | 419            | 434  | 449        | 464  | 479         | 494         | 509        | 523  | 191     | .281 033 3672 |
| 92  | 538       | 553   | 568            | 583  | 598        | 613  | . 627       | 642         | 657        | 672  | 198     | .285 557 3090 |
| 93  | 687       | 702   | 716            | 731  | 746        | 761  | 776         | 790         | 805        | 820  | 197     | .294 466 2262 |
| 94  | 835       | 850   | 864            | 879  | 894        | 909  | 923         | 938         | 953        | 967  | 199     | 298 853 0764  |
|     |           |       |                |      |            |      |             |             |            |      |         | .324 282 4553 |
| 95  | 982       | 997   | *012           | *026 | *041       | *056 | *070        | *085        | *100       | *114 | 211     |               |
| 96  | 47 129    | 144   | 159            | 173  | 188        | 202  | 217         | 232         | 246        | 261  | 223     | .848 304 8630 |
| 97  | 276       | 290   | 305            | 319  | <b>334</b> | 349  | 363         | 378         | 392        | 407  | 227     | .356 025 8572 |
| 98  | 422       | 436   | 451            | 465  | 480        | 494  | 509         | $\bf 524$   | 538        | 553  | 229     | .359 835 4823 |
| 99  | 567       | 582   | 596            | 611  | 625        | 640  | 654         | 669         | 683        | 698  | 233     | .367 355 9210 |
| 300 | 0         | 1     | $\overline{2}$ | 3    | 4          | 5    | 6           | 7           | 8          | 9    | TEN-PLA | CE LOGARITHM  |

| 300 | 0          | 1    | 2    | 3    | 4    | 5    | 6                      | 7    | 8    | 9    | Differences.                                    |
|-----|------------|------|------|------|------|------|------------------------|------|------|------|---|
| 300 | 47 712     | 727  | 741  | 756  | 770  | 784  | 799                    | 813  | 828  | 842  | 15  |
| 01  | 857        | 871  | 885  | 900  | 914  | 929  | 948                    | 958  | 972  | 986  | 1 2   |
| 02  | 48 001     | 015  | 029  | 044  | 058  | 073  | 087                    | 101. | 116  | 130  | 2 3<br>3 5                                      |
| 03  | 144        | 159  | 173  | 187  | 202  | 216  | 230                    | 244  | 259  | 273  | 4 6   |
| 04  | 287        | 302  | 316  | 330  | 344  | 359  | 373                    | 387  | 401  | 416  | 5 8   |
| -   |            |      |      |      |      |      |                        |      |      |      | 6 9   |
| 05  | 430        | 444  | 458  | 473  | 487  | 501  | 515                    | 530  | 544  | 558  | 7 11  |
| 06  | 572        | 586  | 601  | 615  | 629  | 643  | 657                    | 671  | 686  | 700  | 8 12<br>9 14                                    |
| 07  | 714        | 728  | 742  | 756  | 770  | 785  | 799                    | 813  | 827  | 841  |   |
| 08  | 855        | 869  | 883  | 897  | 911  | 926  | 940                    | 954  | 968  | 982  |   |
| 09  | 996        | *010 | *024 | *038 | *052 | *066 | *080                   | *094 | *108 | *122 | 14<br>1 1                                       |
| 310 | 49 136     | 150  | 164  | 178  | 192  | 206  | 220                    | 234  | 248  | 262  | 2 3   |
| 11  | 276        | 290  | 304  | 318  | 332  | 346  | 360                    | 374  | 388  | 402  | 3 4<br>4 6                                      |
| 12  | 415        | 429  | 443  | 457  | 471  | 485  | 499                    | 513  | 527  | 541  | 5 7   |
| 13  | 554        | 568  | 582  | 596  | 610  | 624  | 638                    | 651  | 665  | 679  | 6 8   |
| 14  | 693        | 707  | 721  | 734  | 748  | 762  | 776                    | 790  | 803  | 817  | 7 10  |
|     |            |      |      |      |      |      |                        |      |      |      | 8 11  |
| 15  | 831        | 845  | 859  | 872  | 886  | 900  | 914                    | 927  | 941  | 955  | 9 13  |
| 16  | 969        | 982  | 996  | *010 | *024 | *037 | *051                   | *065 | *079 | *092 |   |
| 17  | $50\ 106$  | 120  | 133  | 147  | 161  | 174  | 188                    | 202  | 215  | 229  | 13  |
| 18  | 243        | 256  | 270  | 284  | 297  | 311  | 325                    | 338  | 352  | 365  | 1 1 2 3   |
| 19  | 379        | 393  | 406  | 420  | 433  | 447  | 461                    | 474  | 488  | 501  | 3 4   |
| 320 | 50 515     | 529  | 542  | 556  | 569  | 583  | 596                    | 610  | 623  | 637  | 4 5   |
| 21  | 651        | 664  | 678  | 691  | 705  | 718  | 732                    | 745  | 759  | 772  | 5 7   |
| 22  | 786        | 799  | 813  | 826  | 840  | 853  | 866                    | 880  | 893  | 907  | 6 8   |
|     |            |      |      |      |      | 987  | *001                   | *014 | *028 | *041 | 7 9<br>8 10                                     |
| 23  | 920        | 934  | 947  | 961  | 974  |      |                        |      |      |      | 9 12  |
| 24  | $51\ 055$  | 068  | 081  | 095  | 108  | 121  | 135                    | 148  | 162  | 175  |   |
| 25  | 188        | 202  | 215  | 228  | 242  | 255  | 268                    | 282  | 295  | 308  | 12  |
| 26  | 322        | 335  | 348  | 362  | 375  | 388  | 402                    | 415  | 428  | 441  | 1 1   |
| 27  | 455        | 468  | 481  | 4.95 | 508  | 521  | 534                    | 548  | 561  | 574  | 2 2   |
| 28  | 587        | 601  | 614  | 627  | 640  | 654  | 667                    | 680  | 693  | 706  | 3 4   |
| 29  | 720        | 733  | 746  | 759  | 772  | 786  | 799                    | 812  | 825  | 838  | 4 5   |
| -   |            |      |      |      |      |      |                        |      |      |      | 5 6 6   |
| 330 | $51 \ 851$ | 865  | 878  | 891  | 904  | 917  | 930                    | 943  | 957  | 970  | 7 8   |
| 31  | 983        | 996  | *009 | *022 | *035 | *048 | *061                   | *075 | *088 | *101 | 8 10  |
| 32  | $52\ 114$  | 127  | 140  | 153  | 166  | 179  | 192                    | 205  | 218  | 231  | 9 11  |
| 33  | 244        | 257  | 270  | 284  | 297  | 310  | 323                    | 336  | 349  | 362  |   |
| 34  | 375        | 388  | 401  | 414  | 427  | 440  | 453                    | 466  | 479  | 492  | 11  |
| 35  | 504        | 517  | 530  | 543  | 556  | 569  | 582                    | 595  | 608  | 621  | 1 1   |
| 36  | 634        | 647  | 660  | 673  | 686  | 699  | 711                    | 724  | 737  | 750  | $\begin{bmatrix} 2 & 2 \\ 3 & 3 \end{bmatrix}$  |
| - 1 |            |      |      |      |      |      |                        |      |      | 879  | 4 4   |
| 37  | 763        | 776  | 789  | 802  | 815  | 827  | 840                    | 853  | 866  |      | 5 6   |
| 38  | 892        | 905  | 917  | 930  | 943  | 956  | 969                    | 982  | 994  | *007 | 6 7   |
| 39  | $53\ 020$  | 033  | 046  | 058  | 071  | 084  | 097                    | 110  | 122  | 135  | 7 8   |
| 340 | 53 148     | 161  | 173  | 186  | 199  | 212  | 224                    | 237  | 250  | 263  | 8 9<br>9 10                                     |
| 41  | 275        | 288  | 301  | 314  | 326  | 339  | $3\overrightarrow{52}$ | 364  | 377  | 390  | 3 10  |
| 42  | 403        | 415  | 428  | 441  | 453  | 466  | 479                    | 491  | 504  | 517  |   |
| 43  | 529        | 542  | 555  | 567  | 580  | 593  | 605                    | 618  | 631  | 643  | 10<br>1 1                                       |
| 44  | 656        | 668  | 681  | 694  | 706  | 719  | 732                    | 744  | 757  | 769  | $\begin{array}{ccc} 1 & 1 \\ 2 & 2 \end{array}$ |
|     |            |      |      |      |      |      |                        |      |      |      | 3 3   |
| 45  | 782        | 794  | 807  | 820  | 832  | 845  | 857                    | 870  | 882  | 895  | 4 4   |
| 46  | 908        | 920  | 933  | 945  | 958  | 970  | 983                    | 995  | *008 | *020 | 5 5   |
| 47  | 54 033     | 045  | 058  | 070  | 083  | 095  | 108                    | 120  | 133  | 145  | 6 6   |
| 48  | 158        | 170  | 183  | 195  | 208  | 220  | 233                    | 245  | 258  | 270  | 7 7<br>8 8                                      |
| 49  | 283        | 295  | 307  | 320  | 332  | 345  | 357                    | 370  | 382  | 394  | 9 9   |
|     |            |      |      |      |      | 1    |                        |      |      |      | 1   |

| 350 | 0         | 1    | . 2  | 3    | 4    | 5    | 6           | 7    | 8    | 9    | WEIGHTS AND MEASURE                               |
|-----|-----------|------|------|------|------|------|-------------|------|------|------|---|
| 350 | 54 407    | 419  | 432  | 444  | 456  | 469  | 481         | 494  | 506  | 518  | LENGTH,   |
| 51  | 531       | 543  | 555  | 568  | 580  | 593  | • 🖝         | 617  | 630  | 642  | Num. Log.   |
| 52  | 654       | 667  | 679  | 691  | 704  | 716  | 728         | 741  | 753  | 765  | Inches in 1 meter.<br>39.3700 1.59 51             |
| 53  | 777       | 790  | 802  | 814  | 827  | 839  | 851         | 864  | 876  | 888  | Meters in 1 inch.                                 |
| 54  | 900       | 913  | 925  | 937  | 949  | 962  | 974         | 986  | 998  | *011 | .02 540 8.40 48                                   |
|     |           |      |      |      |      | ľ.   |             |      |      |      | Feet in 1 meter.<br>13/4, 3.2 808 0.51 59         |
| 55  | 55 023    | 035  | 047  | 060  | 072  | 084  | 096         | 108  | 121  | 133  | Meters in 1 foot.                                 |
| 56  | 145       | 157  | 169  | 182  | 194  | 206  | 218         | 230  | 242  | 255  | 4/13, .30 480 9.48 40                             |
| 57  | 267       | 279  | 291  | 303  | 315  | 328  | 340         | 352  | 364  | 376  | Yards in 1 meter.<br>13/12, 1.0 936 0.03 88       |
| 58  | 388       | 400  | 413  | 425  | 437  | 449  | 461         | 473  | 485  | 497  | Meters in 1 yard.                                 |
| 59  | 509       | 522  | 534  | 546  | 558  | 570  | 582         | 594  | 606  | 618  | 12/13, .91 440 9.96 1<br>Miles in 1 kilometer.    |
| 360 | 55 630    | 642  | 654  | 666  | 678  | 691  | 703         | 715  | 727  | 739  | 5/8, .62 137 9.79 3                               |
| 61  | 751       | 763  | 775  | 787  | 799  | 811  | 823         | 835  | 847  | 859  | Kilometers in 1 mile.<br>8/5, 1.6 093 0.20 6      |
| 62  | 871       | 883  | 895  | 907  | 919  | 931  | 943         | 955  | 967  | 979  | AREA.   |
| 63  | 991       | *003 | *015 | *027 | *038 | *050 | *062        | *074 | *086 | *098 | Sq. inches in 1 sq. meter.                        |
| 64  | 56 110    | 122  | 134  | 146  | 158  | 170  | 182         | 194  | 205  | 217  | 1550.0 3.19 0<br>Sq. meters in 1 sq. inch.        |
| 65  | 229       | 241  | 253  | 265  | 277  | 289  | 301         | 312  | 324  | 336  | .00 065 6.80 9<br>Sq. feet in 1 sq. meter.        |
| 66  | 348       | 360  | 372  | 384  | 396  | 407  | 419         | 431  | 443  | 455  | 10.764 1.03 1                                     |
| 67  | 467       | 478  | 490  | 502  | 514  | 526  | 538         | 549  | 561  | 573  | Sq. meters in 1 sq. foot.                         |
| 68  | 585       | 597  | 608  | 620  | 632  | 644  | 656         | 667  | 679  | 691  | 1/11, .09 290 8.96 8<br>Sq. yards in 1 sq. meter. |
| 69  | 703       | 714  | 726  | 738  | 750  | 761  | 773         | 785  | 797  | 808  | 6/5, 1.1 960 0.07 7<br>Sq. meters in 1 sq. yard.  |
| 70  | 56820     | 832  | 844  | 855  | 867  | 879  | 891         | 902  | 914  | 926  | 5/6, .83 613 9.92 2                               |
| 71  | 937       | 949  | 961  | 972  | 984  | 996  | *008        | *019 | *031 | *043 | VOLUME.   |
| 72  | $57\ 054$ | 066  | 078  | 089  | 101  | 113  | 124         | 136  | 148  | 159  | Cu. inches in 1 cu. cm.                           |
| 73  | 171       | 183  | 194  | 206  | 217  | 229  | 241         | 252  | 264  | 276  | Cu. em. in 1 cu. inch.                            |
| 74  | 287       | 299  | 310  | 322  | 334  | 345  | 357         | 368  | 380  | 392  | 16.387 1.214<br>Cu, feet in 1 cu, meter,          |
| 75  | 403       | 415  | 426  | 438  | 449  | 461  | 473         | 484  | 496  | 507  | 35,314 1,547                                      |
| 76  | 519       | 530  | 542  | 553  | 565  | 576  | 588         | 600  | 611  | 623  | Cu, meters in 1 cu, foot,<br>.02 832 8.45 2       |
| 77  | 634       | 646  | 657  | 669  | 680  | 692  | 703         | 715  | 726  | 738  | Cu. yards in 1 cu. meter.                         |
| 78  | 749       | 761  | 772  | 784  | 795  | 807  | 818         | 830  | 841  | 852  | 4/8, 1.3 079 0.11 6                               |
| 79  | 864       | 875  | 887  | 898  | 910  | 921  | 933         | 944  | 955  | 967  | Cu. meters in 1 cu. yard.<br>3/4, .76 456 9.88 8  |
|     | E         | 000  | *001 | *019 | *004 | *025 | *0.47       | *058 | *070 | *001 | CAPACITY.   |
| 80  | 57 978    | 990  | *001 | *013 | *024 | *035 | *047        |      | *070 | *081 | .03 381 8.52 9                                    |
| 81  | _ 58 092  | 104  | 115  | 127  | 138  | 149  | 161         | 172  | 184  | 195  | Cu. cm. in 1 fluid ounce.                         |
| 82  | 206       | 218  | 229  | 240  | 252  | 263  | 274         | 286  | 297  | 309  | 29.574 1.47 0                                     |
| 83  | 320       | 331  | 343  | 354  | 365  | 377  | <b>3</b> 88 | 399  | 410  | 422  | U. S. gallons in 1 liter.<br>.26 417 9.42 1       |
| 84  | 433       | 444  | 456  | 467  | 478  | 490  | 501         | 512  | 524  | 535  | Liters in 1 U. S. gallon.                         |
| 85  | 546       | 557  | 569  | 580  | 591  | 602  | 614         | 625  | 636  | 647  | 3.7 854 0.57 8<br>U. S. bushels in 1 hectolit     |
| 86  | 659       | 670  | 681  | 692  | 704  | 715  | 726         | 737  | 749  | 760  | 2.8 377 0.45 2                                    |
| 87  | 771       | 782  | 794  | 805  | 816  | 827  | 838         | 850  | 861  | 872  | Hectoliters in 1 U. S. bush                       |
| 88  | 883       | 894  | 906  | 917  | 928  | 939  | 950         | 961  | 973  | 984  | .35 239 9.54 7<br>Weights.                        |
| 89  | 995       | *006 | *017 | *028 | *040 | *051 | *062        | *073 | *084 | *095 | Grains in 1 gram.                                 |
| 90  | 59 106    | 118  | 129  | 140  | 151  | 162  | 173         | 184  | 195  | 207  | 15,432 1.18 8<br>Grams in 1 grain.                |
| 91  | 218       | 229  | 240  | 251  | 262  | 273  | 284         | 295  | 306  | 318  | .06 480 8.81 1                                    |
| 92  | 329       | 340  | 351  | 362  | 373  | 384  | 395         | 406  | 417  | 428  | Oz. troy in 1 gram.                               |
| 93  | 439       | 450  | 461  | 472  | 483  | 494  | 506         | 517  | 528  |      | .03 215 8.50 7<br>Grams in 1 oz. troy.            |
| 94  | 550       | 561  | 572  | 583  | 594  | 605  | 616         | 627  | 638  | 649  | 31,103 1.49 2                                     |
|     |           |      |      |      |      |      | 726         | 737  | 748  | 759  | Oz. avoirdupois in 1 gram.<br>.03 527 8.54 7      |
| 95  | 660       | 671  | 682  | 693  | 704  | 715  |             |      |      |      | Grams in 1 oz. avoirdupois                        |
| 96  | 770       | 780  | 791  | 802  | 813  | 824  | 835         | 846  | 857  | 868  | 28.350 1.45 2                                     |
| 97  | 879       | 890  | 901  | 912  | 923  | 934  | 945         | 956  | 966  | 977  | Pounds av. in 1 kilogram.<br>11/5, 2.2 046 0.34 8 |
| 98  | 988       | 999  | *010 | *021 | *032 | *043 | *054        | *065 | *076 | *086 | Kilograms in 1 pound av.                          |
| 99  | 60 097    | 108  | 119  | 130  | 141  | 152  | 163         | 173  | 184  | 195  | 5/11, .45 859 9.65 6                              |
| - 1 |           |      |      |      |      | 1    |             |      |      |      |   |

| 400 | 0         | 1   | 2   | 3   | 4    | 5    | 6    | 7    | 8    | 9    | Differences. |
|-----|-----------|-----|-----|-----|------|------|------|------|------|------|--------------|
| 400 | 60 206    | 217 | 228 | 239 | 249  | 260  | 271  | 282  | 293  | 304  |              |
| 01  | 314       | 325 | 336 | 347 | 358  | 369  | 379  | 390  | 401  | 412  |              |
| 02  | 423       | 433 | 444 | 455 | 466  | 477  | 487  | 498  | 509  | 520  |              |
| 03  | 531       | 541 | 552 | 563 | 574  | 584  | 595  | 606  | 617  | 627  |              |
| 04  | 638       | 649 | 660 | 670 | 681  | 692  | 703  | 713  | 724  | 735  | 11           |
|     |           |     |     |     |      |      |      |      |      | 1    | 1 1          |
| 05  | . 746     | 756 | 767 | 778 | 788  | 799  | 810  | 821  | 831  | 842  | 2 2          |
| 06  | 853       | 863 | 874 | 885 | 895  | 906  | 917  | 927  | 938  | 949  | 3 8          |
| 07  | 959       | 970 | 981 | 991 | *002 | *013 | *023 | *034 | *045 | *055 | 4 4          |
| 08  | 61 066    | 077 | 087 | 098 | 109  | 119  | 130  | 140  | 151  | 162  | 5 6<br>6 7   |
| 09  | 172       | 183 | 194 | 204 | 215  | 225  | 236  | 247  | 257  | 268  | 7 8          |
| 410 | 61 278    | 289 | 300 | 310 | 321  | 331  | 342  | 352  | 363  | 374  | 8 9          |
| 11  | 384       | 395 | 405 | 416 | 426  | 437  | 448  | 458  | 469  |      | 9 10         |
| 12  | 490       | 500 | 511 | 521 | 532  | 542  | 553  | 563  | 574  | 584  |              |
|     | 595       | 606 | 616 | 627 |      | 648  | 658  | 669  |      | 690  |              |
| 13  | 700       |     | 721 |     | 637  |      |      |      | 679  |      |              |
| 14  | 100       | 711 | 121 | 731 | 742  | 752  | 763  | 773  | 784  | 794  |              |
| 15  | 805       | 815 | 826 | 836 | 847  | 857  | 868  | 878  | 888  | 899  | 10           |
| 16  | 909       | 920 | 930 | 941 | 951  | 962  | 972  | 982  | 993  | *003 | 1 1          |
| 17  | $62\ 014$ | 024 | 034 | 045 | 055  | 066  | 076  | 086  | 097  | 107  | 2 2          |
| 18  | 118       | 128 | 138 | 149 | 159  | 170  | 180  | 190  | 201  | 211  | 3 3<br>4 4   |
| 19  | 221       | 232 | 242 | 252 | 263  | 273  | 284  | 294  | 304  | 315  | 5 5          |
| 100 | 60 205    | 995 | 246 | 250 | 200  | 277  | 207  | 207  | 400  |      | 6 6          |
| 420 | 62 325    | 335 | 346 | 356 | 366  | 377  | 387  | 397  | 408  | 418  | 7 7          |
| 21  | 428       | 439 | 449 | 459 | 469  | 480  | 490  | 500  | 511  | 521  | 8 8          |
| 22  | 531       | 542 | 552 | 562 | 572  | 583  | 593  | 603  | 613  | 624  | 9 9          |
| 23  | 634       | 644 | 655 | 665 | 675  | 685  | 696  | 706  | 716  | 726  | •            |
| 24  | 737       | 747 | 757 | 767 | 778  | 788  | 798  | 808  | 818  | 829  |              |
| 25  | 839       | 849 | 859 | 870 | 880  | 890  | 900  | 910  | 921  | 931  |              |
| 26  | 941       | 951 | 961 | 972 | 982  | 992  | *002 | *012 | *022 | *033 |              |
| 27  | 63 043    | 053 | 063 | 073 | 083  | 094  | 104  | 114  | 124  | 134  | 9            |
| 28  | 144       | 155 | 165 | 175 | 185  | 195  | 205  | 215  | 225  | 236  | 1 1          |
| 29  | 246       | 256 | 266 | 276 | 286  | 296  | 306  | 317  | 327  | 337  | 2 2          |
|     |           |     |     |     | 200  |      | 300  | 311  | 021  | 33,  | 8 8          |
| 430 | 63 347    | 357 | 367 | 377 | 387  | 397  | 407  | 417  | 428  | 438  | 4 4          |
| 31  | 448       | 458 | 468 | 478 | 488  | 498  | 508  | 518  | 528  | 538  | 5 5<br>6 5   |
| 32  | 548       | 558 | 568 | 579 | 589  | 599  | 609  | 619  | 629  | 639  | 7 6          |
| 33  | 649       | 659 | 669 | 679 | 689  | 699  | 709  | 719  | 729  | 739  | 8 7          |
| 34  | 749       | 759 | 769 | 779 | 789  | 799  | 809  | 819  | 829  | 839  | 9 8          |
| 35  | 849       | 859 | 869 | 879 | 889  | 899  | 909  | 919  | 929  | 939  |              |
| 36  | 949       | 959 | 969 | 979 |      |      | *008 |      |      |      |              |
| 37  | 64 048    |     |     |     | 988  | 998  |      | *018 | *028 | *038 |              |
|     |           | 058 | 068 | 078 | 088  | 098  | 108  | 118  | 128  | 137  |              |
| 38  | 147       | 157 | 167 | 177 | 187  | 197  | 207  | 217  | 227  | 237  | 8            |
| 39  | 246       | 256 | 266 | 276 | 286  | 296  | 306  | 316  | 326  | 335  | 1 1          |
| 140 | $64\ 345$ | 355 | 365 | 375 | 385  | 395  | 404  | 414  | 424  | 434  | 2 2          |
| 41  | 444       | 454 | 461 | 473 | 483  | 493  | 503  | 513  | 523  | 532  | 8 2          |
| 42  | 542       | 552 | 562 | 572 | 582  | 591  | 601  | 611  | 621  | 631  | 4 8          |
| 43  | 640       | 650 | 660 | 670 | 680  | 689  | 699  | 709  | 719  | 729  | 5 4<br>6 5   |
| 44  | 738       | 748 | 758 | 768 | 777  | 787  | 797  | 807  | 816  | 826  | 7 6          |
|     |           |     |     |     |      |      |      |      |      | 1    | 8 6          |
| 45  | 836       | 846 | 856 | 865 | 875  | 885  | 895  | 904  | 914  | 924  | 9 7          |
| 46  | 933       | 943 | 953 | 963 | 972  | 982  | 992  | *002 | *011 | *021 |              |
| 47  | 65 031    | 040 | 050 | 060 | 070  | 079  | 089  | 099  | 108  | 118  |              |
| 48  | 128       | 137 | 147 | 157 | 167  | 176  | 186  | 196  | 205  | 215  |              |
| 49  | 225       | 234 | 244 | 254 | 263  | 273  | 283  | 292  | 302  | 312  |              |
| 1   | 0         | 1   | 2   | 3   | 4    | 5    | 6    | 7    | 8    | 9    | Differences. |

| 450 | Ó      | 1    | 2         | 3                 | 4    | 5    | 6         | 7                                      | 8           | 9          | MATHEMATICAL CONSTANTS.   |
|-----|--------|------|-----------|-------------------|------|------|-----------|--|-------------|------------|---|
| 450 | 65 321 | 331  | 341       | 350               | 360  | 369  | 379       | 389                                    | 398         | 408        | LOGARITHMS.   |
| 51  | 418    | 427  | 437       | 447               | 456  | 466  | 475       | 485                                    | 495         | 504        | e=1+1+1/2!+1/3!+1/4!  |
| 52  | 514    | 523  | 533       | 543               | 552  | 562  | 571       | 581                                    | 591         | 600        | = 2.71828 18284 596<br>$M = log_{10} e =$ 48429 448   |
| 53  | 610    | 619  | 629       | 639               | 648  | 658  | 667       | 677                                    | 686         | 696        | $1/M = log_e 10 = -2.30258509$  |
| 54  | 706    | 715  | 725       | 734               | 744  | 753  | 763       | 772                                    | 782         | 792        | PI,   |
| 34  | 100    | 110  | 120       | 134               | 144  | 100  | 105       | 112                                    | 102         | 192        | $\pi = - 3.14159 26535 89$  |
| 55  | 801    | 811  | 820       | 830               | 839  | 849  | 858       | 868                                    | 877         | 887        | $1/\pi = -0.318309886183$ $\sqrt{\pi} = -1.772453850905$  |
| 56  | 896    | 906  | 916       | 925               | 935  | 944  | $\bf 954$ | 963                                    | 973         | 982        | $1/\sqrt{\pi} = -0.564189583547$  |
| 57  | 992    | *001 | *011      | *020              | *030 | *039 | *049      | *058                                   | *068        | *077       | $\pi^2 = -9.869604401089$   |
| 58  | 66 087 | 096  | 106       | 115               | 124  | 134  | 143       | 153                                    | 162         | 172        | $1/\pi^2 = -0.101321183642$   |
| 59  | 181    | 191  | 200       | 210               | 219  | 229  | 238       | 247                                    | 257         | 266        | $\pi^3 = -31.006276680299$<br>$1/\pi^3 = -0.032251534438$   |
| 100 | 00.070 | 005  | 005       | 204               | 214  | 202  | 000       | 0.40                                   | 051         | 0.01       | $\pi^4 = -97.409091034002$  |
| 160 | 66 276 | 285  | 295       | 304               | 314  | 323  | 332       | 342                                    | 351         | 361        | $1/\pi^4 = -0.010265982254$   |
| 61  | 370    | 380  | 389       | 398               | 408  | 417  | 427       | 436                                    | 445         | 455        | $\log_e \pi = 1.1447298$  |
| 62  | 464    | 474  | 483       | 492               | 502  | 511  | 521       | 530                                    | 539         | <b>549</b> | $\log_{10} \pi = 0.4971498$ $\log \text{ are } 1^{\circ} = - 8.2418773$   |
| 63  | 558    | 567  | 577       | 586               | 596  | 605  | 614       | $\bf 624$                              | 633         | 642        | $\log \arctan = -6.2418115$ $\log \arctan 1' = -6.4637261$  |
| 64  | 652    | 661  | 671       | 680               | 689  | 699  | 708       | 717                                    | 727         | 736.       | log are 1"= - 4.6855748   |
| 65  | 745    | 755  | 764       | 773               | 783  | 792  | 801       | 811                                    | 820         | 829        | RADIUS MEASURE,   |
| 66  | 839    | 848  | 857       | 867               | 876  | 885  | 894       | 904                                    | 913         | 922        | $R^{\circ} = 180^{\circ}/\pi = 57^{\circ}.2957795$<br>$R' = 180 \cdot 60'/\pi$                                  |
| 67  | 932    | 941  | 950       | 960               | 969  | 978  | 987       | 997                                    | *006        | *015       | = 3487'.74677 07  |
| 68  | 67 025 | 034  | 043       | 052               | 062  | 071  | 080       | 089                                    | 099         | 108        | $R'' = 180.60.60''/\pi$   |
| 69  | 117    | 127  | 136       | 145               | 154  | 164  | 173       |  |             |            | = 206264".8062470   |
| 0.0 |        | 121  | 130       | 140               | 104  | 104  | 145       | 182                                    | 191         | 201        | log R°= - 1.75812 26<br>log R'= - 3.53627 88  |
| 170 | 67 210 | 219  | 228       | 237               | 247  | 256  | 265       | 274                                    | 284         | 293        | $\log R' = - 3.5362788$ $\log R'' = - 5.3144251$  |
| 71  | 302    | 311  | 321       | 330               | 339  | 348  | 357       | 367                                    | 376         | 385        | TRIGONOMETRIC RATIOS.   |
| 72  | 394    | 403  | 413       | 422               | 431  | 440  | 449       | 459                                    | 468         | 477        | $\sin 1^{\circ} =017452406437$  |
| 73  | 486    | 495  | 504       | 514               | 523  | 532  | 541       | 550                                    | $\bar{560}$ | 569        | $\sin 1' = -0.0029 08882 04$<br>$\sin 1'' = -0.0000 48481 36$   |
| 74  | 578    | 587  | 596       | 605               | 614  | 624  | 633       | 642                                    | 651         | 660        | $ \sin 1'' =000004848136  \log \sin 1^\circ =8.2418553 $  |
|     |        |      |           |                   |      |      |           | •                                      |             |            | $\log \sin 1' = -6.4637261$   |
| 75  | 669    | 679  | 688       | 697               | 706  | 715  | 724       | 733                                    | 742         | 752        | $\log \sin 1'' = - 4.6855748$   |
| 76  | 761    | 770  | 779       | 788               | 797  | 806  | 815       | 825                                    | 834         | 843        | PWRS OF 1", 1', 1°, IN RADIA  |
| 77  | 852    | 861  | 870       | 879               | 888  | 897  | 906       | 916                                    | 925         | 934        | $1'' = .0^{5}484813681109$  |
| 78  | 943    | 952  | 961       | 970               | 979  | 988  | 997       | *006                                   | *015        | *024       | $(1'')^2 = .0^{10} 2350443$   |
| 79  | 68 034 | 043  | 052       | 061               | 070  | 079  | 088       | 097                                    | 106         | 115        | $ \begin{array}{ccc} (1'')^2/2 \stackrel{!}{:=} & .0^{10}  11752  21 \\ (1'')^3 & = & .0^{15}  11 \end{array} $ |
| 180 | 68 124 | 133  | 142       | 151               | 160  | 169  | 178       | 187                                    | 196         | 205        | $(1'')^3/3! = .0^{16}1$   |
| 81  | 215    | 224  | 233       | 242               | 251  | 260  | 269       | 278                                    | 287         | 296        | $1' = .0^329\ 08882\ 08665\ 72$   |
| 82  | 305    | 314  | 323       | 332               | 341  | 350  | 359       |  | 377         |            | $(1')^2 = .078461594994$  |
|     | 395    | 404  |           | $\frac{332}{422}$ |      |      |           | 368                                    |             | 386        | $(1')^2/2! = .0^7423 07974 97$<br>$(1')^3 = .0^{10}24613 78$  |
| 83  |        |      | 413       |                   | 431  | 440  | 449       | 458                                    | 467         | 476        | $(1')^3/3! = .0^{11}410229$   |
| 84  | . 485  | 494  | 502       | 511               | 520  | 529  | 538       | 547                                    | 556         | 565        | $(1')^4 = .0^{147}15$   |
| 85  | 574    | 583  | $\bf 592$ | 601               | 610  | 619  | 628       | 637                                    | 646         | 655        | $(1')^{4}/4! = .0^{15}29$   |
| 86  | 664    | 673  | 681       | 690               | 699- | 708  | 717       | 726                                    | 735         | 744        | $ \begin{array}{ccc} (1')^5 & = & .0^{17} \\ (1')^5/5 & ! = & .0 \end{array} $                                  |
| 87  | 753    | 762  | 771       | 780               | 789  | 797  | 806       | 815                                    | 824         | 833        | 1° = .01745 32925 19943 293   |
| 88  | 842    | 851  | 860       | 869               | 878  | 886  | 895       | 904                                    | 913         | 922        | $(1^{\circ})^2 = .0^3304617419786708$   |
| 89  | 931    | 940  | 949       | 958               | 966  | 975  | 984       | 993                                    | *002        | *011       | $(1^{\circ})^2/2 != .0^3152308709893354$  |
|     |        |      |           |                   |      |      |           |  |             |            | $(1^{\circ})^{3} = .0^{\circ}531657693420^{\circ}$<br>$(1^{\circ})^{3}/3! = .0^{\circ}88609615570^{\circ}$      |
| 90  | 69 020 | 028  | 037       | 046               | 055  | 064  | 073       | 082                                    | 090         | 099        | $(1^{\circ})^{4} = .0^{7}927\ 91772\ 43751\ 184$  |
| 91  | 108    | 117  | 126       | 135               | 144  | 152  | 161       | 170                                    | 179         | 188        | (1°)4/4!=.0838 66323 85156 299  |
| 92  | 197    | 205  | 214       | 223               | 232  | 241  | 249       | 258                                    | 267         | 276        | $(1^{\circ})^{5} = .0^{8}16 19521 94779 596$  |
| 93  | 285    | 294  | 302       | 311               | 320  | 329  | 338       | 346                                    | 355         | 364        | $(1^{\circ})^{5}/5 != .0^{10}13496 01623 163  (1^{\circ})^{6} = .0^{10}28265 99029 733 $                        |
| 94  | 373    | 381  | 390       | 399               | 408  | 417  | 425       | 434                                    | 443         | <b>452</b> | $(1^{\circ})^{6}/6! = .0^{12}32925831983$   |
| 95  | 461    | 469  | 478       | 487               | 496  | 504  | 513       | 522                                    | 531         | 539        | $(1^{\circ})^{7} = .0^{12}49338459709$  |
| 1   | 548    | 557  |           |                   |      |      |           |  |             |            | $(1^{\circ})^{7}/7! = .0^{169}788384$   |
| 96  |        |      | 566       | 574               | 583  | 592  | 601       | 609                                    | 618         | 627        | $(1^{\circ})^{8} = .0^{14}8 6103130320949$  |
| 97  | 636    | 644  | 653       | 662               | 671  | 679  | 688       | 697                                    | 705         | 714        | $(1^{\circ})^{8}/8 != .0^{18}2135494308$<br>$(1^{\circ})^{9} = .0^{15}1502783120374$                            |
| 98  | 723    | 732  | 740       | 749               | 758  | 767  | 775       | 784                                    | 793         | 801        | $(1^{\circ})^{10} = .0^{17}26228513398$   |
| 99  | 810    | 819  | 827       | 836               | 845  | 854  | 862       | 871                                    | 880         | 888        | $(1^{\circ})^{11} = .0^{19}457773916$   |
| 500 | 0      | 7    | 0         |                   |      | ~    |           | —————————————————————————————————————— |             |            | MATHEMATICAL  |
| 500 | 0      | 1    | <b>2</b>  | 3                 | 4    | 5    | 6         | 7                                      | 8           | 9          | CONSTANTS.  |

| 500      | 0          | 1                 | 2                 | 3         | 4                 | 5     | 6                 | 7           | 8                 | 9                 | Differences. |
|----------|------------|-------------------|-------------------|-----------|-------------------|-------|-------------------|-------------|-------------------|-------------------|--------------|
| 500      | 69 897     | 906               | 914               | 923       | 932               | 940   | 949               | 958         | 966               | 975               |              |
| 01       | 984        | 992               | *001              | *010      | *018              | *027  | *036              | *044        | *053              | *062              |              |
| 02       | 70 070     | 079               | 088               | 096       | 105               | 114   | 122               | 131         | 140               | 148               |              |
| 03       | 157        | 165               | 174               | 183       | 191               | 200   | 209               | 217         | 226               | 234               |              |
| 04       | 243        | 252               | 260               | 269       | 278               | 286   | 295               | 303         | 312               | 321               |              |
|          | 329        |                   |                   | 355       | 364               | 372   |                   | 389         | 398               | 406               |              |
| 05<br>06 | 415        | $\frac{338}{424}$ | $\frac{346}{432}$ | 441       | $\frac{364}{449}$ | 458   | $\frac{381}{467}$ | 475         | 484               | 492               |              |
| 07       | 501        | 509               | 518               | 526       | 535               | 544   | 552               | 561         | 569               | 578               | 9            |
| 08       | 586        | 595               | 603               | 612       | 621               | 629   | 638               | 646         | 655               | 663               | 1 1          |
| 09       | 672        | 680               | 689               | 697       | 706               | 714   | 723               | 731         | 740               | 749               | 2 2 3 3      |
|          |            |                   |                   |           |                   |       |                   |             |                   |                   | 4 4          |
| 510      | 70 757     | 766               | 774               | 783       | 791               | 800   | 808               | 817         | 825               | 834               | 5 5          |
| 11       | 842        | 851               | 859               | 868       | 876               | 885   | 893               | 902         | 910               | 919               | ,6 5<br>7 6  |
| 12       | 927        | 935               | 944               | 952       | 961               | 969   | 978               | 986         | 995               | *003              | s 7          |
| 13       | 71 012     | 020               | 029               | 037       | 046               | 054   | 063               | 071         | 079               | 088               | 9 8          |
| 14       | 096        | 105               | 113               | 122       | 130               | 139   | 147               | 155         | 164               | 172               |              |
| 15       | 181        | 189               | 198               | 206       | 214               | 223   | 231               | 240         | 248               | 257               |              |
| 16       | 265        | 273               | 282               | 290       | 299               | 307   | 315               | 324         | 332               | 341               |              |
| 17       | 349        | 357               | 366               | 374       | 383               | 391   | 399               | 408         | 416               | 425               |              |
| 18       | 433        | 441               | 450               | 458       | 466               | 475   | 483               | 492         | 500               | 508               |              |
| 19       | 517        | 525               | 533               | 542       | 550               | 559   | 567               | 575         | 584               | 592               |              |
| 520      | 71 600     | 609               | 617               | 625       | 634               | 642   | 650               | 659         | 667               | 675               |              |
| 21       | 684        | 692               | 700               | 709       | 717               | 725   | 734               | 742         | 750               | 759               | 8            |
| 22       | 767        | 775               | 784               | 792       | 800               | 809   | 817               | 825         | 834               | 842               | 1 1          |
| 23       | 850        | 858               | 867               | 875       | 883               | 892   | 900               | 908         | 917               | 925               | 2 2          |
| 24       | 933        | 941               | 950               | 958       | 966               | 975   | 983               | 991         | 999               | *008              | 3 2<br>4 8   |
| 25       | 72 016     | 024               | 032               | 041       | 049               | 057   | 066               | 074         | 082               | 090               | 5 4          |
| 26       | 099        | 107               | 115               | 123       | 132               | 140   | 148               | 156         | 165               | 173               | 6 5          |
| 27       | 181        | 189               | 198               | 206       | 214               | 222   | 230               | 239         | 247               | 255               | 7 6<br>8 6   |
| 28       | 263        | 272               | 280               | 288       | 296               | 304   | 313               | 321         | 329               | 337               | 9 7          |
| 29       | 346        | 354               | 362               | 370       | 378               | 387   | 395               | 403         | 411               | 419               |              |
| 530      | 72 428     | 436               | 444               | 452       | 460               | 469   | 477               | 485         | 493               | 501               |              |
| 31       | 509        | 518               | 526               | 534       | 542               | 550   | 558               | 567         | 575               | 583               |              |
| 32       | 591        | 599               | 607               | 616       | 624               | 632   | 640               | 648         | 656               | 665               |              |
| 33       | 673        | 681               | 689               | 697       | 705               | 713   | 722               | 730         | 738               | 746               |              |
| 34       | 754        | 762               | 770               | 779       | 787               | 795   | 803               | 811         | 819               | 827               |              |
| 35       | 835        | 843               | 852               | 860       | 868               | 876   | 884               | 892         | 900               | 908               |              |
| 36       | 916        | 925               | 933               | 941       | 949               | 957   | 965               | 973         | 981               | 989               | 7            |
| 37       | 997        | *006              | *014              | *022      | *030              | *038  | *046              | *054        | *062              | *070              | 1 1 2 1      |
| 38       | 73 078     | 086               | 094               | 102       | 111               | 119   | 127               | 135         | 143               | 151               | 3 2          |
| 39       | 159        | 167               | 175               | 183       | 191               | 199   | 207               | 215         | 223               | 231               | 4 3          |
| 540      | 73 239     | 247               | 255               | 263       | 272               | 280   | 288               | 296         | 304               | 312               | 5 4<br>6 4   |
| 41       | 320        | 328               | 336               | 344       | 352               | 360   | 368               | 376         | 384               | $\frac{312}{392}$ | 7 5          |
| 42       | 400        | 408               | 416               | 424       |                   | 440   | 448               | 456         |                   |                   | 8 6          |
| 43       | 480        | 488               | 496               | 504       | $\frac{432}{512}$ | 520   | 528               | 536         | $\frac{464}{544}$ | 472 $552$         | 9 6          |
| 44       | 560        | 568               | 576               | 584       | 592               | 600   | 608               | 616         | 624               | 632               |              |
|          |            |                   |                   |           |                   |       |                   |             |                   |                   |              |
| 45       | 640        | 648               | 656               | 664       | 672               | 679   | 687               | 695         | 703               | 711               |              |
| 46       | 719        | 727               | 735               | 743       | 751               | 759   | 767               | 775         | 783               | 791               |              |
| 47       | 799        | 807               | 815               | 823       | 830               | 838   | 846               | 854         | 862               | 870               |              |
| 48       | 878<br>957 | $\frac{886}{965}$ | 894<br>973        | 902 - 981 | $\frac{910}{989}$ | 918   | 926<br>*005       | 933<br>*013 | 941<br>*020       | 949<br>*028       |              |
| 11/      |            |                   |                   |           |                   | .,,,, |                   | 013         | 020               |                   |              |
|          |            |                   |                   |           |                   |       |                   |             |                   |                   |              |

| 550 | 0      | 1                 | 2            | 3   | 4                  | 5    | 6                  | 7    | 8          | 9     | MEI  | RIDION | AL PA     | RTS.  |
|-----|--------|-------------------|--------------|-----|--------------------|------|--------------------|------|------------|-------|------|--------|-----------|-------|
| 550 | 74 036 | 044               | 052          | 060 | 068                | 076  | 084                | 092  | 099        | 107   | ANG. | MILES. | ANG.      | MILES |
| 51  | 115    | 123               | 131          | 139 | 147                | 155  | 162                | 170  | 178        | - 186 | 00   | 0      | $_{42}$ o | 2782  |
| 52  | 194    | 202               | 210          | 218 | 225                | 233  | 241                | 249  | 257        | 265   | 1    | 60     | 43        | 2863  |
| 53  | 273    | 280               | 288          | 296 | 304                | 312  | 320                | 327  | 335        | 343   | 2    | 120    | 44        | 2946  |
|     |        | 359               | 367          | 374 | 382                | 390  | 398                | 406  | 414        | 421   | -    | 120    | **        | 2010  |
| 54  | 351    | 599               | 201          | 514 | 304                | 590  | 380                | 400  | 414        | 421   | 3    | 180    | 45        | 3030  |
| 55  | 429    | 437               | <b>445</b>   | 453 | 461                | 468  | 476                | 484  | 492        | 500   | 4    | 240    | 46        | 3116  |
| 56  | 507.   | 515               | 523          | 531 | 539                | 547  | 554                | 562  | 570        | 578   | 5    | 300    | 47        | 3203  |
| 57  | 586    | 593               | 601          | 609 | 617                | 624  | 632                | 640  | 648        | 656   | Ü    | 800    |           | 0200  |
| 58  | 663    | 671               | 679          | 687 | 695                | 702  | 710                | 718  | 726        | 733   | . 6  | 361    | 48        | 3292  |
| 59  | 741    | 749               | 757          | 764 | 772                | 780  | 788                | 796  | 803        | 811   | 7    | 421    | 49        | 3382  |
| 33  | 141    | 140               |              |     |                    |      |                    |      |            |       | 8    | 482    |           | 3474  |
| 60  | 74819  | 827               | 834          | 842 | 850                | 858  | 865                | 873  | 881        | 889   | •    | 452    | 50        | 9414  |
| 61  | 896    | 904               | 912          | 920 | 927                | 935  | 943                | 950  | 958        | 966   | 9    | 542    | 51        | 3569  |
| 62  | 974    | 981               | 989          | 997 | *005               | *012 | *020               | *028 | *035       | *043  |      | 603    | 52        | 3665  |
| 63  | 75 051 | 059               | 066          | 074 | 082                | 089  | 097                | 105  | 113        | 120   | 10   |        |           |       |
| 64  | 128    | 136               | 143          | 151 | 159                | 166  | 174                | 182  | 189        | 197   | 11   | 664    | 53        | 3764  |
|     |        |                   |              |     |                    |      |                    |      |            |       | 10   | 705    | 54        | 900=  |
| 65  | 205    | 213               | 220          | 228 | 236                | 243  | 251                | 259  | 266        | 274   | 12   | 725    | 54        | 3865  |
| 66  | 282    | 289               | 297          | 305 | 312                | 320  | 328                | 335  | 343        | 351   | . 13 | 787    | 55        | 3968  |
| 67  | 358    | 366               | 374          | 381 | 389                | 397  | $\boldsymbol{404}$ | 412  | 420        | 427   | 14   | 848    | 56        | 4074  |
| 68  | 435    | <b>442</b>        | 450          | 458 | 465                | 473  | 481                | 488  | 496        | 504   |      | 040    |           | 44.00 |
| 69  | 511    | 519               | 526          | 534 | $\boldsymbol{542}$ | 549  | 557                | 565  | 572        | 580   | .15  | 910    | 57        | 4183  |
|     |        |                   | 220          | 010 | 010                | 000  | 200                | 0.11 | 0.10       | 05.0  | 16   | 973    | 58        | 4294  |
| 570 | 75 587 | 595               | 603          | 610 | 618                | 626  | 633                | 641  | 648        | 656   | 17   | 1035   | 59        | 4409  |
| 71  | 664    | 671               | 679          | 686 | 694                | 702  | 709                | 717  | 724        | 732   |      |        |           |       |
| 72  | 740    | 747               | 755          | 762 | 770                | 778  | 785                | 793  | 800        | 808   | 18   | 1098   | 60        | 4527  |
| 73  | 815    | 823               | 831          | 838 | 846                | 853  | 861                | 868  | 876        | 884   | 19   | 1161   | 61        | 4649  |
| 74  | 891    | 899               | 906          | 914 | 921                | 929  | 937                | 944  | <b>952</b> | 959   | 20   | 1225   | 62        | 4775  |
|     | 0.07   | 07.4              | 982          | 989 | 997                | *005 | *012               | *020 | *027       | *035  |      |        |           |       |
| 75  | 967    | 974               |              |     |                    |      |                    |      |            |       | 21   | 1289   | 63        | 4905  |
| 76  | 76 042 | 050               | 057          | 065 | 072                | 080  | 087                | 095  | 103        | 110   | 22   | 1354   | 64        | 5039  |
| 77  | 118    | 125               | 133          | 140 | 148                | 155  | 163                | 170  | 178        | 185   | 23   | 14i9   | 65        | 5179  |
| 78  | 193    | 200               | 208          | 215 | 223                | 230  | 238                | 245  | 253        | 260   |      |        |           |       |
| 79  | 268    | 275               | 283          | 290 | 298                | 305  | 313                | 320  | 328        | 335   | 24   | 1484   | 66        | 5324  |
| 580 | 76 343 | 350               | 358          | 365 | 373                | 380  | 388                | 395  | 403        | 410   | 25   | 1550   | 67        | 5474  |
|     | 418    | $\frac{330}{425}$ | 433          | 440 | 448                | 455  | 462                | 470  | 477        | 485   | 26   | 1616   | 68        | 5631  |
| 81  |        |                   |              |     | 522                | 1    | 537                | 545  | 552        | 559   |      |        |           |       |
| 82  | 492    | 500               | 507          | 515 |                    | 530  |                    |      |            |       | 27   | 1684   | 69        | 5795  |
| 83  | 567    | 574               | 582          | 589 | 597                | 604  | 612                | 619  | 626        | 634   | 28   | 1751   | 70        | 5966  |
| 84  | 641    | 649               | 656          | 664 | 671                | 678  | 686                | 693  | 701        | 708   | 29   | 1819   | 71        | 6146  |
| 85  | 716    | 723               | 730          | 738 | 745                | 753  | 760                | 768  | 775        | 782   |      |        |           |       |
| 86  | 790    | 797               | 805          | 812 | 819                | 827  | 834                | 842  | 849        | 856   | 30   | 1888   | 72        | 6335  |
|     | 864    | 871               | 879          | 886 | 893                | 901  | 908                | 916  | 923        | 930   | 31   | 1958   | 73        | 6534  |
| 87  | 938    |                   | 953          | 960 | 967                | 975  | 982                | 989  | 997        | *004  | 32   | 2028   | 74        | 6746  |
| 88  |        | 945               |              |     |                    |      |                    |      | 070        | 078   |      |        |           |       |
| 89  | 77 012 | 019               | 026          | 034 | 041                | 048  | 056                | 063  | 010        | 010   | 33   | 2100   | 75        | 6970  |
| 590 | 77.085 | 093               | 100          | 107 | 115                | 122  | 129                | 137  | 144        | 151   | 34   | 2171   | 76        | 7210  |
| 91  | 159    | 166               | 173          | 181 | 188                | 195  | 203                | 210  | 217        | 225   | 35   | 2244   | 77        | 7467  |
| 92  | 232    | 240               | 247          | 254 | 262                | 269  | 276                | 283  | 291        | 298   | 00   |        | • •       |       |
| 93  | 305    | 313               | 320          | 327 | 335                | 342  | 349                | 357  | 364        | 371   | 36   | 2318   | 78        | 7745  |
|     |        |                   |              | 401 | 408                | 415  | 422                | 430  | 437        | 444   | 37   | 2393   | 79        | 8046  |
| 94  | 379    | 386               | 393          | 401 | ±00                | 1    |                    |      |            |       | 38   | 2468   | 80        | 8375  |
| 95  | 452    | 459               | 466          | 474 | 481                | 488  | 495                | 503  | 510        | 517   | 90   | 4100   | 00        | 2010  |
| 96. | 77 525 | 532               | 539          | 546 | 554                | 561  | 568                | 576  | 583        | 590   | 39   | 2545   | 81        | 8739  |
| 97  | 597    | 605               | 612          | 619 | 627                | 634  | 641                | 648  | 656        | 663   |      | 2623   | 82        | 9145  |
| 98  | 670    | 677               | 685          | 692 | 699                | 706  | 714                | 721  | 728        | 735   | 40   |        |           | 9606  |
| 99  | 743    | 750               | 757          | 764 | 772                | 779  | 786                | 793  | 801        | 808   | 41   | 2702   | 83        | 900t  |
| 600 |        | . 1               | $\frac{}{2}$ | 3   |                    | 5    | 6                  | 7    | 8          | 9     |      |        |           | ARTS  |

| 600 | 0          | 1   | 2                 | 3   | 4          | 5   | 6    | 7                 | 8    | 9    | Differences.                                       |
|-----|------------|-----|-------------------|-----|------------|-----|------|-------------------|------|------|--|
| 600 | 77 815     | 822 | 830               | 837 | 844        | 851 | 859  | 866               | 873  | 880  |  |
| 01  | 887        | 895 | 902               | 909 | 916        | 924 | 931  | 938               | 945  | 952  |  |
| 02  | 960        | 967 | 974               | 981 | 988        | 996 | *003 | *010              | *017 | *025 |  |
| 03  | $78 \ 032$ | 039 | 046               | 053 | 061        | 068 | 075  | 082               | 089  | 097  |  |
| 0.4 | 104        | 111 | 118               | 125 | 132        | 140 | 147  | 154               | 161  | 168  |  |
| 05  | 176        | 183 | 190               | 197 | 204        | 211 | 219  | 226               | 233  | 240  |  |
| 06  | 247        | 254 | 262               | 269 | 276        | 283 | 290  | 297               | 305  | 312  | 24   |
| 07  | 319        | 326 | 333               | 340 | 347        | 355 | 362  | 369               | 376  | 383  | 8  |
| 08  | 390        | 398 | 405               | 412 | 419        | 426 | 433  | 440               | 447  | 455  | $\begin{array}{ccc} 1 & 1 \\ 2 & 2 \end{array}$    |
| 09  | 462        | 469 | 476               | 483 | 490        | 497 | 504  | 512               | 519  | 526  | 3 2  |
| 610 | 78 533     | 540 | 547               | 554 | 561        | 569 | 576  | 583               | 590  | 597  | 4 8  |
| 11  | 604        | 611 | 618               | 625 | 633        | 640 | 647  | 654               | 661  | 668  | 5 4<br>6 5   |
| 12  | 675        | 682 | 689               | 696 | 704        | 711 | 718  | 725               | 732  | 739  | 7 6  |
| 13  | 746        | 753 | 760               | 767 | 774        | 781 | 789  | 796               | 803  | 810  | 8 6<br>9 7   |
| 14  | 817        | 824 | 831               | 838 | 845        | 852 | 859  | 866               | 873  | 880  | , ,  |
| 15  | 888        | 895 | 902               | 909 | 916        | 923 | 930  | 937               | 944  | 951  |  |
| 16  | 958        | 965 | 972               | 979 | 986        | 993 | *000 | *007              | *014 | *021 |  |
| 17  | 79 029     | 036 | 043               | 050 | 057        | 064 | 071  | 078               | 085  | 092  |  |
| 18  | 099        | 106 | 113               | 120 | 127        | 134 | 141  | 148               | 155  | 162  | \\   |
| 19  | 169        | 176 | 183               | 190 | 197        | 204 | 211  | 218               | 225  | 232  |  |
| 620 | 79 239     | 246 | 253               | 260 | 267        | 274 | 281  | 288               | 295  | 302  | A  |
| 21  | 309        | 316 | 323               | 330 | 337        | 344 | 351  | 358               | 365  | 372  | 7  |
| 22  | 379        | 386 | 393               | 400 | 407        | 414 | 421  | 428               | 435  | 442  | 1 1  |
| 23  | 449        | 456 | 463               | 470 | 477        | 484 | 491  | 498               | 505  | 511  | 2 1  |
| 24  | 518        | 525 | 532               | 539 | 546        | 553 | 560  | 567               | 574  | 581  | $egin{array}{cccccccccccccccccccccccccccccccccccc$ |
| 25  | 588        | 595 | 602               | 609 | 616        | 623 | 630  | 637               | 644  | 650  | 5 4  |
| 26  | 657        | 664 | 671               | 678 | 685        | 692 | 699  | 706               | 713  | 720  | 6 4  |
| 27  | 727        | 734 | 741               | 748 | 754        | 761 | 768  | 775               | 782  | 789  | 7 5<br>8 <b>6</b>                                  |
| 28  | 796        | 803 | 810               | 817 | 824        | 831 | 837  | 844               | 851  | 858  | 9 6  |
| 29  | 865        | 872 | 879               | 886 | 893        | 900 | 906  | 913               | 920  | 927  |  |
| 630 | 79 934     | 941 | 948               | 955 | 962        | 969 | 975  | 982               | 989  | 996  |  |
| 31  | 80 003     | 010 | 017               | 024 | 030        | 037 | 044  | 051               | 058  | 065  |  |
| 32  | 072        | 079 | 085               | 092 | 099        | 106 | 113  | 120               | 127  | 134  |  |
| 33  | 140        | 147 | 154               | 161 | 168        | 175 | 182  | 188               | 195  | 202  |  |
| 34  | 209        | 216 | 223               | 229 | 236        | 243 | 250  | 257               | 264  | 271  |  |
| 35  | 277        | 284 | 291               | 298 | 305        | 312 | 318  | 325               | 332  | 339  |  |
| 36  | 346        | 353 | $\frac{251}{359}$ | 366 | 373        | 380 | 387  | 393               | 400  | 407  | 6  |
| 37  | 414        | 421 | 428               | 434 | 441        | 448 | 455  | $\frac{333}{462}$ | 468  | 475  | 1 1  |
| 38  | 482        | 489 | 496               | 502 | 509        | 516 | 523  | 530               | 536  | 543  | 2 1<br>3 2.  |
| 39  | 550        | 557 | 564               | 570 | 577        | 584 | 591  | 598               | 604  | 611  | 4 2  |
| 640 | 80 618     | 625 | 632               | 638 | 645        | 652 | 659  | 665               | 672  | 679  | 5 3  |
| 41  | 686        | 693 | 699               | 706 | 713        | 720 | 726  | 733               | 740  | 747  | 6 4<br>7 4   |
| 42  | 754        | 760 | 767               | 774 | 781        | 787 | 794  | 801               | 808  | 814  | 8 5  |
| 43  | 821        | 828 | 835               | 841 | 848        | 855 | 862  | 868               | 875  | 882  | 9 5  |
| 44  | 889        | 895 | 902               | 909 | 916        | 922 | 929  | 936               | 943  | 949  |  |
| 45  | 956        | 963 | 969               | 976 | 983        | 990 | 996  | *003              | *010 | *017 |  |
| 46  | 81 023     | 030 | 037               | 043 | 983<br>950 | 057 | 064  | 070               | 077  | 084  |  |
| 47  | 090        | 097 | 104               | 111 | 117        | 124 | 131  | 137               | 144  | 151  |  |
| 48  | 158        | 164 | 171               | 178 | 184        | 191 | 198  | 204               | 211  | 218  |  |
| 49  | 224        | 231 | 238               | 245 | 251        | 258 | 265  | 271               | 278  | 285  |  |
|     |            |     |                   |     |            |     |      |                   |      |      |  |

| 650 | 0      | 1    | 2                  | 3    | 4          | 5    | 6          | 7                  | 8    | 9          |      | SQUARI       | E ROO | TS.     |
|-----|--------|------|--------------------|------|------------|------|------------|--------------------|------|------------|------|--------------|-------|---------|
| 650 | 81 291 | 298  | 305                | 311  | 318        | 325  | 331        | 338                | 2.15 | 951        | Num. | <b>Root.</b> | Num.  | Root    |
| 51  | 358    | 365  | 371                | 378  | 385        | i    |            |                    | 345  | 351        | 0    | 0.0000       | 50    | 7.071   |
| 52  | 425    | 431  | 438                |      |            | 391  | 398        |                    | 411  | 418        | 1    | 1.0000       | 51    | 1414    |
|     | -491   |      |                    | 445  | 451        | 458  | 465        | 471                | 478  | 485        | 2    | 4142         | 52    | 211     |
| 53  | 1      | 498  | 505                | 511  | 518        | 525  | 531        | 538                | 544  | 551        | 8    | 7321         | 53    | 280     |
| 54  | 558    | 564  | 571                | 578  | 584        | 591  | 598        | 604                | 611  | 617        | 4    | 2.0000       | 54    | 348     |
| 55  | 624    | 631  | 637                | 644  | 651        | 657  | 664        | 671                | 677  | 684        | 5    | 2361         | 55    | 416     |
| 56  | 690    | 697  | 704                | 710  | 717        | 723  | 730        | 737                | 743  | 750        | 6    | 4495         | 56    | 483     |
| 57  | 757    | 763  | 770                | 776  | 783        | 790  | 796        | 803                | 809  | 816        | 7    | 6458         | 57    | 549     |
| 58  | 823    | 829  | 836                | 842  | 849        | 856  | 862        | 869                | 875  | 882        | 8    | 8284         | 58    | 615     |
| 59  | 889    | 895  | $\boldsymbol{902}$ | 908  | 915        | 921  | 928        | 935                | 941  | 948        | 9    | 3.0000       | 59    | 681     |
| 660 | 81 954 | 961  | 968                | 974  | 981        | 987  | 994        | *000               | *007 | *014       | ſ    |              |       |         |
| 61  | 82 020 | 027  | 033                | 040  | 046        | 053  | 060        | 066                | 073  | 079        | 10   | 8,1628       | 60    | 7.746   |
| 62  | 086    | 092  | 099                | 105  | 112        | 119  |            |                    |      |            | 11   | 3166         | 61    | 810     |
| 63  | 151    | 158  | 164                | 171  | 178        |      | 125        | 132                | 138  | 145        | 12   | 4641         | 62    | 8740    |
|     |        |      |                    |      |            | 184  | 191        | 197                | 204  | 210        | 13   | 6056         | 63    | 9878    |
| 64  | 217    | 223  | 230                | 236  | 243        | 249  | 256        | 263                | 269  | 276        | 14   | 7417         | 64    | 8.000   |
| 65  | 282    | 289  | 295                | 302  | 308        | 315  | 321        | $\bf 328$          | 334  | 341        | 15   | 8730         | 65    | 0628    |
| 66  | 347    | 354  | 360                | 367  | 373        | 380  | 387        | 393                | 400  | 406        | 16   | 4.0000       | 66    | 124     |
| 67  | 413    | 419  | <b>426</b>         | 432  | 439        | 445  | <b>452</b> | 458                | 465  | 471        | 17   | 1231         | 67    | 185     |
| 68  | 478    | 484  | 491                | 497  | 504        | 510  | 517        | 523                | 530  | 536        | 18   | 2426         | 68    | 246     |
| 69  | 543    | 549  | 556                | 562  | 569        | 575  | 582        | 588                | 595  | 601        | 19   | 3589         | 69    | 306     |
| 670 | 82 607 | 614  | 620                | 627  | 633        | 640  | 646        | 653                | 659  | ccc        | 20   | 4.4721       | 70    | 8.366   |
|     | 672    | 679  | 685                | 692  | 698        | i    |            |                    |      | .666       | 21   | 5826         | 71    | 426     |
| 71  | 737    |      | 750                | 756  |            | 705  | 711        | 718                | 724  | 730        | 22   | 6904         | 72    | 4858    |
| 72  | 802    | 743  |                    |      | 763        | 769  | 776        | 782                | 789  | 795        | 23   | 7958         | 73    | 544     |
| 73  |        | 808  | 814                | 821  | 827        | 834  | 840        | 847                | 853  | 860        | 24   | 8990         | 74    | 602     |
| 74  | 866    | 872  | 879                | 885  | 892        | 898  | 905        | 911                | 918  | <b>924</b> | 25   |              |       |         |
| 75  | 930    | 937  | 943                | 950  | 956        | 963  | 969        | 975                | 982  | 988        |      | 5.0000       | 75    | 6608    |
| 76  | 995    | *001 | *008               | *014 | *020       | *027 | *033       | *040               | *046 | *052       | 26   | 0990         | 76    | 7178    |
| 77  | 83 059 | 065  | 072                | 078  | 085        | 091  | 097        | 104                | 110  | 117        | 27   | 1962         | 77    | 7750    |
| 78  | 123    | 129  | 136                | 142  | 149        | 155  | 161        | 168                | 174  | 181        | 28   | 2915         | 78    | 8318    |
| 79  | 187    | 193  | 200                | 206  | 213        | 219  | 225        | 232                | 238  | 245        | 29   | 3852         | 79    | 8889    |
| 680 | 83 251 | 257  | . 264              | 270  | 276        | 283  | 289        | 296                | 302  | 308        | 30   | 5.4772       | 80    | 8.9448  |
|     | 315    | 321  | 327                | 334  | 340        | 347  |            | 359                | 366  | 372        | 81   | 5678         | 81    | 9.0000  |
| 81  | 378    |      | 391                | 398  | 404        |      | 353        |                    |      |            | 32   | 6569         | 82    | 0554    |
|     |        | 385  |                    |      |            | 410  | 417        | 423                | 429  | 436        | 33   | 7446         | 83    | 1104    |
| 83  | 442    | 448  | 455                | 461  | 467        | 474  | 480        | 487                | 493  | 499        | 84   | 8310         | 84    | 1659    |
| 84  | 506    | 512  | 518                | 525  | 531        | 537  | 544        | 550                | 556  | 563        | 85   | 9161         | 85    | 2195    |
| 85  | 569    | 575  | 582                | 588  | <b>594</b> | 601  | 607        | 613                | 620  | 626        | 86   | 6.0000       | 86    | 2786    |
| 86  | 632    | 639  | 645                | 651  | 658        | 664  | 670        | 677                | 683  | 689        | 87   | 0828         | 87    | 327     |
| 87  | 696    | 702  | 708                | 715  | 721        | 727  | 734        | 740                | 746  | 753        | 88   | 1644         | 88    | 3808    |
| 88  | 759    | 765  | 771                | 778  | 784        | 790  | 797        | 803                | 809  | 816        | . 39 | 2450         | 89    | 4340    |
| 89  | 822    | 828  | 835                | 841  | 847        | 853  | 860        | 866                | 872  | 879        | 40   | 6.3246       | 90    | 9.4868  |
| 690 | 83 885 | 891  | 897                | 904  | 910        | 916  | 923        | 929                | 935  | 942        | 41   | 4031         | 91    | 5394    |
|     | 948    | 954  | 960                | 967  | 910<br>973 | 979  | 985        | 992                | 998  | *004       | 42   | 4807         | 92    | 5917    |
| 91  |        |      |                    | 029  | 036        | l .  |            |                    |      |            | 43   | 5574         | 98    | 6437    |
| 92  | 84 011 | 017  | 023                |      |            | 042  | 048        | 055                | 061  | 067        |      | 6332         |       |         |
| 93  | 073    | 080  | 086                | 092  | 098        | 105  | 111        | 117                | 123  | 130        | 44   |              | 94    | 6954    |
| 94  | 136    | 142  | 148                | 155  | 161        | 167  | 173        | 180                | 186  | 192        | 45   | 7082         | 95    | 7468    |
| 95  | 198    | 205  | 211                | 217  | 223        | 230  | 236        | $\boldsymbol{242}$ | 248  | 255        | 46   | 7828         | 96    | 7980    |
| 96  | 261    | 267  | 273                | 280  | 286        | 292  | 298        | 305                | 311  | 317        | 47   | 8557         | 97    | 8489    |
| 97  | 323    | 330  | 336                | 342  | 348        | 354  | 361        | 367                | 373  | 379        | 48   | 9282         | 98    | 8995    |
| 98  | 386    | 392  | 398                | 404  | 410        | 417  | 423        | 429                | 435  | 442        | 49   | 7.0000       | 99    | 9499    |
| 99  | 448    | 454  | 460                | 466  | 473        | 479  | 485        | 491                | 497  | 504        | 50   | 0711         | 100   | 10.0000 |
| 700 |        |      |                    |      |            |      |            | <del></del>        |      |            |      | OTTAR        | , DOC | Te .    |
| 700 | 0      | 1    | <b>2</b>           | 3    | <b>4</b>   | 5    | 6          | 7                  | 8    | 9          | S    | QUARE        | 1 KOO | 18.     |

| 700 | 0                 | 1                 | 2                 | -3                | 4          | 5          | 6                 | 7                 | 8                 | 9                 | Differences.  |
|-----|-------------------|-------------------|-------------------|-------------------|------------|------------|-------------------|-------------------|-------------------|-------------------|---|
| 700 | 84 510            | 516               | 522               | 528               | 535        | 541        | 547               | 553               | 559               | 566               |   |
| 01  | 572               | 578               | 584               | 590               | 597        | 603        | 609               | 615               | 621               | 628               |   |
| 02  | 634               | 640               | 646               | 652               | 658        | 665        | 671               | 677               | 683               | 689               |   |
| 03  | 696               | 702               | 708               | 714               | 720        | 726        | 733               | 739               | 745               | 751               |   |
| 04  | 757               | 763               | 770               | 776               | 782        | 788        | 794               | 800               | 807               | 813               |   |
| 05  | 819               | 825               | 831               | 837               | 844        | 850        | 856               | 862               | 868               | 874               |   |
| 06  | 880               | 887               | 893               | 899               | 905        | 911        | 917               | 924               | 930               | 936               |   |
| 07  | 942               | 948               | 954               | 960               | 967        | 973        | 979               | 985               | 991               | 997               | 7   |
| 08  | 85 003            | 009               | 016               | 022               | 028        | 034        | 040               | 046               | 052               | 058               | 1 1   |
| 09  | 065               | 071               | 077               | 083               | 089        | 095        | 101               | 107               | 114               | 120               | $\begin{array}{ccc} 2 & 1 \\ 3 & 2 \end{array}$                 |
| - 1 | 85 126            | 132               | 138               | 144               | 150        | 156        | 163               | 169               | 175               | 181               | 4 3   |
| 710 | 187               | 193               | 199               | 205               | 211        | 217        | 224               | $\frac{100}{230}$ | 236               | 242               | 5 4   |
| 11  |                   |                   |                   | 266               | 272        | 278        | 285               | 291               | 297               | 303               | $\begin{array}{ccc} 6 & 4 \\ 7 & 5 \end{array}$                 |
| 12  | 248               | 254               | 260               | 327               | 333        | 339        | 345               | 352               | 358               | 364               | s 6   |
| 13  | 309               | 315               | 321               |                   | 394        | 400        | 406               | $\frac{332}{412}$ | 418               | 425               | 9 6   |
| 14  | 370               | 376               | 382               | 388               |            |            |                   |                   |                   |                   |   |
| 15  | 431               | 437               | 443               | 449               | 455        | 461        | 467               | 473               | 479               | 485               |   |
| 16  | 491               | 497               | 503               | 509               | 516        | 522        | 528               | 534               | 540               | 546               |   |
| 17  | 552               | 558               | 564               | 570               | 576        | 582        | 588               | 594               | 600               | 606               |   |
| 18  | 612               | 618               | 625               | 631               | 637        | 643        | 649               | 655               | 661               | 667               |   |
| 19  | 673               | 679               | 685               | 691               | 697        | 703        | 709               | 715               | 721               | 727               |   |
| 720 | 85 733            | 739               | 745               | 751               | 757        | 763        | 769               | 775               | 781               | 788               |   |
| 21  | 794               | 800               | 806               | 812               | 818        | 824        | 830               | 836               | 842               | 848               | 6   |
| 22  | 854               | 860               | 866               | 872               | 878        | 884        | 890               | 896               | 902               | 908               | $egin{array}{ccc} 1 & 1 \ 2 & 1 \end{array}$                    |
| 23  | 914               | 920               | 926               | 932               | 938        | 944        | 950               | 956               | 962               | 968               | $\begin{array}{cccccccccccccccccccccccccccccccccccc$            |
| 24  | 974               | 980               | 986               | 992               | 998        | *004       | *010              | *016              | *022              | *028              | $4 \qquad 2$  |
| 25  | 86 034            | 040               | 046               | 052               | 058        | 064        | 070               | 076               | 082               | 088               | 5 3   |
| 26  | 094               | 100               | 106               | 112               | 118        | 124        | 130               | 136               | 141               | 147               | $\begin{array}{ccc} 6 & 4 \\ 7 & 4 \end{array}$                 |
| 27  | 153               | 159               | 165               | 171               | 177        | 183        | 189               | 195               | 201               | 207               | 8 5   |
| 28  | 213               | 219               | 225               | 231               | 237        | 243        | 249               | 255               | 261               | 267               | 9 5   |
| 29  | 273               | 279               | 285               | 291               | 297        | 303        | 308               | 314               | 320               | 326               |   |
| 730 | 86 332            | 338               | 344               | 350               | 356        | 362        | 368               | 374               | 380               | 386               |   |
| 31  | 392               | 398               | 404               | 410               | 415        | 421        | 427               | 433               | 439               | 445               |   |
| 32  | 451               | 457               | 463               | 469               | 475        | 481        | 487               | 493               | 499               | 504               |   |
| 33  | 510               | 516               | 522               | 528               | 534        | 540        | 546               | 552               | 558               | 564               |   |
| 34  | 570               | 576               | 581               | 587               | 593        | 599        | 605               | 611               | 617               | 623               |   |
| 35  | 629               | 635               | 641               | 646               | 652        | 658        | 664               | 670               | 676               | 682               |   |
| 36  | 688               | 694               | 700               | 705               | 711        | 717        | 723               | 729               | 735               | 741               | 5   |
| 37  | 747               | 753               | 759               | 764               | 770        | 776        | 782               | 788               | 794               | 800               | $egin{array}{cccc} 1 & 1 \ 2 & 1 \end{array}$                   |
| 38  | 806               | 812               | 817               | 823               | 829        | 835        | 841               | 847               | 853               | 859               | $\begin{array}{ccc} \cdot & & 2 & & 1 \\ & 3 & & 2 \end{array}$ |
| 39  | 864               | 870               | 876               | 882               | 888        | 894        | 900               | 906               | 911               | 917               | 4 2   |
| 740 | 86 923            | 929               | 935               | 941               | 947        | 953        | 958               | 964               | 970               | 976               | 5 3<br>6 3  |
| 41  | 982               | 988               | 994               | 999               | *005       | *011       | *017              | *023              | *029              | *035              | 6 3<br>7 4  |
| 42  | 87 040            | 046               | 052               | 058               | 064        | 070        | 075               | 081               | 087               | 093               | 8 4   |
| 43  | 099               | 105               | 111               | 116               | 122        | 128        | 134               | 140               | 146               | 151               | 9 5   |
| 44  | 157               | 163               | 169               | 175               | 181        | 186        | 192               | 198               | 204               | 210               |   |
|     |                   |                   |                   |                   |            |            |                   |                   |                   |                   |   |
| 45  | $\frac{216}{274}$ | $\frac{221}{280}$ | 227               | $\frac{233}{291}$ | 239<br>297 | 245        | $\frac{251}{309}$ | $\frac{256}{315}$ | $\frac{262}{320}$ | $\frac{268}{326}$ |   |
| 46  | 332               |                   | 286               | $\frac{291}{349}$ |            | 303        | 367               | 373               | 379               | 384               |   |
| 47  | 332               | 338               | $\frac{344}{402}$ | 408               | 355        | 361<br>419 | 425               | 431               |                   | 442               |   |
| 48  | 448               | $\frac{396}{454}$ | 460               | 466               | 413        | 477        | 483               | 489               | $\frac{437}{495}$ | 500               |   |
|     |                   | 101               |                   |                   | 4.1        | 1          |                   | -                 |                   |                   |   |
| 750 | 0                 | 1                 | -2                | 3                 | 4          | 5          | 6                 | 7                 | 8                 | $9 \cdot  $       | Differences.  |

| 750      | 0          | 1                 | 2                 | 3                 | 4   | 5          | 6                 | 7                 | 8                 | 9          |      | CUBE   | ROOTS | S.     |
|----------|------------|-------------------|-------------------|-------------------|---|------------|-------------------|-------------------|-------------------|------------|------|--------|-------|--------|
| 750      | 87 506     | 512               | 518               | 523               | 529                                       | 535        | 541               | 547               | 552               | 558        | Num. | Коот.  |       | Root   |
| 51       | 564        | 570               | 576               | 581               | 587                                       | 593        | 599               | 604               | 610               | 616        | 0    | 0,0000 | 50    | 3.6840 |
| 52       | 622        | 628               | 633               | 639               | 645                                       | 651        | 656               | 662               | 668               | 674        | 1    | 1.0000 | 51    | 708    |
| 53       | 679        | 685               | 691               | 697               | 703                                       | 708        | 714               | 720               | 726               | 731        | 2    | 2599   | 52    | 732    |
| 54       | 737        | 743               | 749               | 754               | 760                                       | 766        | 772               | 777               | 783               | 789        | 3    | 4422   | 53    | 756    |
|          | 705        | 200               | 000               | 010               | 010                                       |            |                   |                   |                   |            | . 4  | 5874   | 54    | 779    |
| 55       | 795        | 800               | 806               | 812               | 818                                       | 823        | 829               | 835               | 841               | 846        | 5    | 7100   | 55    | 803    |
| 56       | 852        | 858               | 864               | 869               | 875                                       | 881        | 887               | 892               | 898               | 904        | 6    | 8171   | 56    | 825    |
| 57       | 910        | 915               | 921               | 927               | 933                                       | 938        | 944               | 950               | 955               | 961        | 7    | 9129   | 57    | 848    |
| 58       | 967        | 973               | 978               | 984               | 990                                       | 996        | *001              | *007              | *013              | *018       | 8    | 2.0000 | 58    | 870    |
| 59       | $88\ 024$  | 030               | 036               | 041               | 047                                       | 053        | 058               | 064               | 070               | 076        | 9    | 0801   | 59    | 893    |
| 60       | 88 081     | 087               | 093               | 098               | 104                                       | 110        | 116               | 121               | 127               | 133        | 10   | 2.1544 | 60    | 3.914  |
| 61       | 138        | 144               | 150               | 156               | 161                                       | 167        | 173               | 178               | 184               | 190        | 11   | 2240   | 61    | 936    |
| 62       | 195        | 201               | 207               | 213               | 218                                       | 224        | 230               | 235               | 241               | 247        | 12   | 2894   | 62    | 957    |
| 63       | 252        | 258               | 264               | 270               | 275                                       | 281        | 287               | 292               | 298               | 304        | 13   | 3513   | 63    | 979    |
| 64       | 309        | 315               | 321               | 326               | 332                                       | 338        | 343               | 349               | 355               | 360        | 14   | 4101   | 64    | 4.000  |
| 65       | 366        | 372               | 377               | 383               | 389                                       | 395        | 400               | 406               | 410               |            | 15   | 4662   | 65    | 020    |
|          |            |                   |                   |                   |   | 1          | 400               |                   | 412               | 417        | 16   | 5198   | 66    |        |
| 66       | 423        | 429               | 434               | 440               | 446                                       | 451        | 457               | 463               | 468               | 474        | 17   | 5713   | 67    | 041    |
| 67       | 480        | 485               | 491               | 497               | 502                                       | 508        | 513               | 519               | 525               | 530        | 18   | 6207   | 68    | 061    |
| 68       | 536        | 542               | 547               | 553               | 559                                       | 564        | 570               | 576               | 581               | 587        | 19   | 6684   |       | 081    |
| 69       | 593        | 598               | 604               | 610               | 615                                       | 621        | 627               | 632               | 638               | 643        |      |        | 69    | 101    |
| 70       | 88 649     | 655               | 660               | 666               | 672                                       | 677        | 683               | 689               | 694               | 700        | 20   | 2.7144 | 70    | 4.121  |
| 71       | 705        | 711               | 717               | 722               | 728                                       | 734        | 739               | 745               | 750               | 756        | 21   | 7589   | 71    | 140    |
| 72       | 762        | 767               | 773               | 779               | 784                                       | 790        | 795               | 801               | 807               | 812        | 22   | 8020   | 72    | 160    |
| 73       | 818        | 824               | 829               | 835               | 840                                       | 846        | 852               | 857               | 863               | 868        | 23   | 8439   | 73    | 179    |
| 74       | 874        | 880               | 885               | 891               | 897                                       | 902        | 908               | 913               | 919               | 925        | 24   | 8845   | 74    | 198    |
| 75       | 930        | 936               | 941               | 947               | 953                                       | 958        | 964               | 969               | 975               | 001        | 25   | 9240   | 75    | 217    |
|          |            |                   | 997               | *003              | *009                                      |            | *020              |                   |                   | 981        | 26   | 9625   | 76    | 235    |
| 76       | 986        | 992               |                   |                   |   | *014       |                   | *025              | *031              | *037       | 27   | 3.0000 | 77    | 254    |
| 77       | 89 042     | 048               | 053               | 059               | 190                                       | 070        | 076               | 081               | 087               | 092        | 28   | 0366   | 78    | 272    |
| 78       | 098        | 104               | 109               | 115               | 120                                       | 126        | 131               | 137               | 143               | 148        | 29   | 0723   | 79    | 290    |
| 79       | 154        | 159               | 165               | 170               | 176                                       | 182        | 187               | 193               | 198               | 204        | 30   | 3.1072 | 80    | 4.308  |
| 80       | 89 209     | 215               | 221               | 226               | 232                                       | 237        | 243               | 248               | 254               | 260        | 31   | 1414   | 81    | 326    |
| 81       | 265        | 271               | 276               | 282               | 287                                       | 293        | 298               | 304               | 310               | 315        | 32   | 1748   | 82    | 344    |
| 82       | 321        | 326               | 332               | 337               | 343                                       | 348        | 354               | 360               | 365               | 371        | 33   | 2075   | 83    | 362    |
| 83       | 376        | 382               | 387               | 393               | 398                                       | 404        | 409               | 415               | 421               | 426        | 34   | 2396   | . 84  | 379    |
| 84       | 432        | 437               | 443               | 448               | <b>454</b>                                | 459        | 465               | 470               | 476               | 481        |      |        |       |        |
| 0.5      | 487        | 492               | 498               | 504               | 509                                       | 515        | 520               | 526               | 531               | 537        | 35   | 2711   | 85    | 396    |
| 85       | 542        | 548               | 553               | 559               | 564                                       | 515<br>570 | 575               | 581               | 586               | 592        | 36   | 3019   | 86    | 414    |
| 86       | 542<br>597 | 603               | 609               | 614               | 620                                       | 1          | 631               | 636               | 642               | 647        | 37   | 3322   | 87    | 431    |
| 87       |            |                   |                   | 669               | 675                                       | 625        |                   | 691               | 697               | 702        | 38   | 3620   | 88    | 448    |
| 88       | 653        | 658               | 664               | 724               | 730                                       | 680        | 686               | 746               | 752               | 757        | 39   | 3912   | 89    | 464    |
| 89       | 708        | 713               | 719               |                   |   | 735        | 741               |                   |                   | 191        | 40   | 3,4200 | 90    | 4.481  |
| 90       | 89 763     | 768               | 774               | 779               | 785                                       | 790        | 796               | 801               | 807               | 812        | 41   | 4482   | 91    | 4979   |
| 91       | 818        | 823               | 829               | 834               | 840                                       | 845        | 851               | 856               | 862               | 867        | 42   | 4760   | 92    | 514    |
| 92       | 873        | 878               | 883               | 889               | 894                                       | 900        | 905               | 911               | 916               | 922        | 43   | 5034   | 93    | 530    |
| 93       | 927        | 933               | 938               | 944               | 949                                       | 955        | . 960             | 966               | 971               | 977        | 44   | 5303   | 94    | 5468   |
| 94       | 982        | 988               | 993               | 998               | *004                                      | *009       | *015              | *020              | *026              | *031       | 45   | 5569   | 95    | 5629   |
| 95       | 90 037     | 042               | 048               | 053               | 059                                       | 064        | 069               | 075               | 080               | 086        | 46   | 5830   | 96    | 5789   |
| 96       | 091        | 097               | 102               | 108               | 113                                       | 1          | 124               | 129               | 135               | 140        | 47   | 6088   | 97    | 5947   |
|          |            |                   |                   |                   |   | 119        |                   |                   |                   |            | 48   | 6342   | 98    | 6104   |
| 97       | 146        | 151               | 157               | 162               | 168                                       | 173        | 179               | 184               | 189               | 195        | 49   | 6593   | 99    | 6261   |
| 98<br>99 | 200<br>255 | $\frac{206}{260}$ | $\frac{211}{266}$ | $\frac{217}{271}$ | $\begin{array}{c} 222 \\ 276 \end{array}$ | 227<br>282 | $\frac{233}{287}$ | $\frac{238}{293}$ | $\frac{244}{298}$ | 249<br>304 | 50   | 6840   | 100   | 6416   |
| 10.5     |            |                   |                   |                   |   | l          |                   | <u></u>           |                   |            | 1    |        |       |        |
| 300      | 0          | 1                 | 2                 | 3                 | 4   | 5          | 6                 | 7                 | 8                 | 9          |      | CUBE : | ROOTS |        |

| 800      | 0   | 1                 | 2                 | 3                 | 4                 | 5          | 6          | 7                 | 8                 | 9          | Differences.                                    |
|----------|---|-------------------|-------------------|-------------------|-------------------|------------|------------|-------------------|-------------------|------------|---|
| 800      | 90 309                                    | 314               | 320               | 325               | 331               | 336        | 342        | 347               | 352               | 358        |   |
| 01       | 363                                       | 369               | 374               | 380               | 385               | 390        | 396        | 401               | 407               | 412        |   |
| 02       | 417                                       | 423               | 428               | 434               | 439               | 445        | 450        | 455               | 461               | 466        |   |
| 03       | 472                                       | 477               | 482               | 488               | 493               | 499        | 504        | 509               | 515               | 520        |   |
| 04       | 526                                       | 531               | 536               | 542               | 547               | 553        | 558        | 563               | 569               | 574        |   |
| 05       | 580                                       | 585               | 590               | 596               | 601               | 607        | 612        | 617               | 623               | 628        |   |
| 06       | 634                                       | 639               | 644               | 650               | 655               | 660        | 666        | 671               | 677               | 682        |   |
| 07       | 687                                       | 693               | 698               | 703               | 709               | 714        | 720        | 725               | 730               | 736        | 6   |
| 08       | 741                                       | 747               | 752               | 757               | 763               | 768        | 773        | 779               | 784               | 789        | 1 1   |
| 09       | 795                                       | 800               | 806               | 811               | 816               | 822        | 827        | 832               | 838               | 843        | $egin{array}{ccc} 2 & 1 \ 3 & 2 \end{array}$    |
| 810      | 90 849                                    | 854               | 859               | 865               | 870               | 875        | 881        | 886               | 891               | 897        | 4 2   |
| 11       | 902                                       | 907               | 913               | 918               | 924               | 929        | 934        | 940               | 945               | 950        | 5 3<br>6 4                                      |
| 12       | 956                                       | 961               | 966               | 972               | 977               | 982        | 988        | 993               | 998               | *004       | 7 4   |
| 13       | 91 009                                    | 014               | 020               | 025               | 030               | 036        | 041        | 046               | 052               | 057        | 8 5   |
| 14       | 062                                       | 068               | 073               | 078               | 084               | 089        | 094        | 100               | 105               | 110        | 9 5   |
|          |   |                   |                   |                   |                   |            |            |                   |                   | i          |   |
| 15       | 116                                       | 121               | 126               | 132               | 137               | 142        | 148        | 153               | 158               | 164        |   |
| 16       | 169                                       | 174               | 180               | 185               | 190               | 196        | 201        | 206               | 212               | 217        |   |
| 17       | 222                                       | 228               | 233               | 238               | 243               | 249        | 254        | 259               | 265               | 270        |   |
| 18<br>19 | $\begin{array}{c} 275 \\ 328 \end{array}$ | $\frac{281}{334}$ | $\frac{286}{339}$ | $\frac{291}{344}$ | $\frac{297}{350}$ | 302<br>355 | 307<br>360 | $\frac{312}{365}$ | $\frac{318}{371}$ | 323<br>376 |   |
|          |   |                   |                   |                   |                   |            |            |                   |                   |            |   |
| 820      | 91 381                                    | 387               | 392               | 397               | 403               | 408        | 413        | 418               | 424               | 429        |   |
| 21       | 434                                       | 440               | 445               | 450               | 455               | 461        | 466        | 471               | 477               | 482        | 5   |
| 22       | 487                                       | 492               | 498               | 503               | 508               | 514        | 519        | 524               | 529               | 535        | $\begin{array}{ccc} 1 & 1 \\ 2 & 1 \end{array}$ |
| 23       | 540                                       | 545               | 551               | 556               | 561               | 566        | 572        | 577               | 582               | 587        | 3 2   |
| 24       | 593                                       | 598               | 603               | 609               | 614               | 619        | 624        | 630               | 635               | 640        | 4 2   |
| 25       | 645                                       | 651               | 656               | 661               | 666               | 672        | 677        | 682               | 687               | 693        | 5 3<br>6 3                                      |
| 26       | 698                                       | 703               | 709               | 714               | 719               | 724        | 730        | 735               | 740               | 745        | 7 4   |
| 27       | 751                                       | 756               | 761               | 766               | 772               | 777        | 782        | 787               | 793               | 798        | 8 4   |
| 28       | 803                                       | 808               | 814               | 819               | 824               | 829        | 834        | 840               | 845               | 850        | 9 5   |
| 29       | 855                                       | 861               | 866               | 871               | 876               | 882        | 887        | 892               | 897               | 903        |   |
| 830      | $91\ 908$                                 | 913               | 918               | 924               | 929               | 934        | 939        | 944               | 950               | 955        |   |
| 31       | 960                                       | 965               | 971               | 976               | 981               | 986        | 991        | 997               | *002              | *007       |   |
| 32       | $92\ 012$                                 | 018               | 023               | 028               | 033               | 038        | 044        | 049               | 054               | 059        |   |
| 33       | 065                                       | 070               | 075               | 080               | 085               | 091        | 096        | 101               | 106               | 111        |   |
| 34       | 117                                       | 122               | 127               | 132               | 137               | 143        | 148        | 153               | 158               | 163        |   |
| 35       | 169                                       | 174               | 179               | 184               | 189               | 195        | 200        | 205               | 210               | 215        |   |
| 36       | 221                                       | 226               | 231               | 236               | 241               | 247        | 252        | 257               | 262               | 267        | 4   |
| 37       | 273                                       | 278               | 283               | 288               | 293               | 298        | 304        | 309               | 314               | 319        | $\begin{array}{ccc} 1 & 0 \\ 2 & 1 \end{array}$ |
| 38       | 324                                       | 330               | 335               | 340               | 345               | 350        | 355        | 361               | 366               | 371        | 3 · 1   |
| 39       | 376                                       | 381               | 387               | 392               | 397               | 402        | 407        | 412               | 418               | 423        | 4 2   |
| 840      | 92 428                                    | 433               | 438               | 443               | 449               | 454        | 459        | 464               | 469               | 474        | $egin{array}{ccc} 5 & 2 \ 6 & 2 \end{array}$    |
| 41       | 480                                       | 485               | 490               | 495               | 500               | 505        | 511        | 516               | 521               | 526        | 7 3   |
| 42       | 531                                       | 536               | 542               | 547               | 552               | 557        | 562        | 567               | 572               | 578        | S 3<br>9 4                                      |
| 43       | 583                                       | 588               | 593               | 598               | 603               | 609        | 614        | 619               | 624               | 629        | v 4   |
| 44       | 634                                       | 639               | 645               | 650               | 655               | 660        | 665        | 670               | 675               | 681        |   |
| 45       | 686                                       | 691               | 696               | 701               | 706               | 711        | 716        | 722               | 727               | 732        |   |
| 46       | 737                                       | 742               | 747               | 752               | 758               | 763        | 768        | 773               | 778               | 783        |   |
| 47       | 788                                       | 793               | 799               | 804               | 809               | 814        | 819        | 824               | 829               | 834        |   |
| 48       | 840                                       | 845               | 850               | 855               | 860               | 865        | 870        | 875               | 881               | 886        | '   |
| 49       | 891                                       | 896               | 901               | 906               | 911               | 916        | 921        | 927               | 932               | 937        |   |
|          |   |                   |                   |                   |                   | 1          |            |                   |                   | 1          |   |

| 850  | 0         | 1         | 2    | 3          | 4    | 5    | 6    | 7    | 8         | 9    |     | RECIPI   | ROCAL      | s.           |
|------|-----------|-----------|------|------------|------|------|------|------|-----------|------|-----|----------|------------|--------------|
| 0.50 | . 00.010  | 0.47      | 050  | 0.55       | 0.00 | 0.07 | 070  | 050  | 000       | 000  | Num | . Recip. | Num.       | RECI         |
| 850  | 92 942    | 947       | 952  | 957        | 962  | 967  | 973  | 978  | 983       | 988  | .0  | œ        | 5.0        | 0.200        |
| 51   | 993       | 998       | *003 | *008       | *013 | *018 | *024 | *029 | *034      | *039 | .1  | 10.0000  | 5.1        | 196          |
| 5.2  | 93 044    | 049       | 054  | 059        | 064  | 069  | 075  | 080  | 085       | 090  | .2  | 5.0000   | 5.2        | 192          |
| 53   | 095       | 100       | 105  | 110        | 115  | 120  | 125  | 131  | 136       | 141  | .3  | 3,3333   | 5.3        | 188          |
| 54   | 146       | 151       | 156  | 161        | 166  | 171  | 176  | 181  | 186       | 192  | .4  | 2.5000   | 5.4        | 185          |
| 55   | 197       | 202       | 207  | 212        | 217  | 222  | 227  | 232  | 237       | 242  | .5  | 2.0000   | 5,5        | 181          |
| 56   | 247       | 252       | 258  | 263        | 268  | 273  | 278  | 283  | 288       | 293  | .6  | 1.6667   | 5.6        | 178          |
| 57   | 298       | 303       | 308  | 313        | 318  | 323  | 328  | 334  | 339       | 344  | .7  | 4286     | 5.7        | 175          |
| 58   | 349       | 354       | 359  | 364        | 369  | 374  | 379  | 384  | 389       | 394  | .s  | 2500     | 5.8        | 179          |
| 59   | 399       | 404       | 409  | 414        | 420  | 425  | 430  | 435  | 440       | 445  | .9  | 1111     | 5.9        | 169          |
| 360  | 93 450    | 455       | 460  | 465        | 470  | 475  | 480  | 485  | 490       | 495  | 1.0 | 1.0000   |            |              |
| 61   | 500       | 505°      | 510  | 515        | 520  | 526  | 531  | 536  | 541       | 546  | 1.1 | 0.9091   | 6.0<br>6.1 | 0.166<br>168 |
| 62   | 551       | 556       | 561  | 566        | 571  | 576  | 581  | 586  | 591       | 596  | 1.1 | 8333     |            |              |
| 63   | 601       | 606       | 611  | 616        | 621  | 626  | 631  | 636  | 641       | 646  | 1   |          | 6.2        | 161          |
| 64   | 651       | 656       | 661  | 666        | 671  | 676  | 682  | 687  | 692       | 697  | 1.3 | 7692     | 6.3        | 158          |
|      |           |           |      |            |      |      |      |      |           |      | 1.4 | 7143     | 6.4        | 150          |
| 65   | 702       | 707       | 712  | 717        | 722  | 727  | 732  | 737  | 742       | 747  | 1.5 | 6667     | 6.5        | 158          |
| 66   | 752       | 757       | 762  | 767        | 772  | 777  | 782  | 787  | 792       | 797  | 1.6 | 6250     | 6.6        | 15           |
| 67   | 802       | 807       | 812  | 817        | 822  | 827  | 832  | 837  | 842       | 847  | 1.7 | 5882     | 6.7        | 149          |
| 68   | 852       | 857       | 862  | 867        | 872  | 877  | 882  | 887  | 892       | 897  | 1.8 | 5556     | 6.8        | 14           |
| 69   | 902       | 907       | 912  | 917        | 922  | 927  | 932  | 937  | 942       | 947  | 1.9 | 5263     | 6.9        | 14           |
| 370  | 93 952    | 957       | 962  | 967        | 972  | 977  | 982  | 987  | 992       | 997  | 2.0 | 0.5000   | 7.0        | 0.149        |
| 71   | 94 002    | 007       | 012  | 017        | 022  | 027  | 032  | 037  | 042       | 047  | 2.1 | 4762     | 7.1        | 140          |
| 72   | 052       | 057       | 062  | 067        | 072  | 077  | 082  | 086  | 091       | 096  | 2.2 | 4545     | 7.2        | 138          |
| 73   | 101       | 106       | 111  | 116        | 121  | 126  | 131  | 136  | 141       | 146  | 2.3 | 4348     | 7.3        | 18           |
| 74   | 151       | 156       | 161  | 166        | 171  | 176  | 181  | 186  | 191       | 196  | 2.4 | 4167     | 7.4        | 18           |
|      |           |           |      |            |      |      |      |      |           |      | 2.5 | 4000     | 7.5        | 138          |
| 75   | 201       | 206       | 211  | 216        | 221  | 226  | 231  | 236  | 240       | 245  | 2.6 | 3846     | 7.6        | 13           |
| 76   | 250       | 255       | 260  | 265        | 270  | 275  | 280  | 285  | 290       | 295  | 2.7 | 3704     | 7.7        | 129          |
| 77   | 300       | 305       | 310  | 315        | 320  | 325  | 330  | 335  | 340       | 345  | 2.8 | 3571     | 7.8        | 128          |
| 78   | 349       | 354       | 359  | 364        | 369  | 374  | 379  | 384  | 389       | 394  | 2.9 | 3448     | 7.9        | 126          |
| 79   | 399       | 404       | 409  | 414        | 419  | 424  | 429  | 433  | 438       | 443  | 3.0 | 0.3333   | 8.0        | 0.128        |
| 880  | $94\ 448$ | 453       | 458  | 463        | 468  | 473  | 478  | 483  | 488       | 493  | 3.1 | 3226     | 8.1        | 128          |
| 81   | 498       | 503       | 507  | 512        | 517  | 522  | 527  | 532  | 537       | 542  | 3.2 | 3125     | 8.2        | 129          |
| 82   | 547       | $\bf 552$ | 557  | 562        | 567  | 571  | 576  | 581  | 586       | 591  | 3.3 | 3030     | 8.3        | 120          |
| 83   | 596       | 601       | 606  | 611        | 616  | 621  | 626  | 630  | 635       | 640  | 3.4 | 2941     | 8.4        | 119          |
| 84   | 645       | 650       | 655  | 660        | 665  | 670  | 675  | 680  | 685       | 689  |     |          |            |              |
| 85   | 694       | 699       | 704  | 709        | 714  | 719  | 724  | 729  | 734       | 738  | 3.5 | 2857     | 8.5        | 117          |
| 86   | 743       | 748       | 753  | 758        | 763  | 768  | 773  | 778  | 783       | 787  | 3.6 | 2778     | 8.6        | 116          |
| 86   | 792       | 797       | 802  | 807        | 812  | 817  | 822  | 827  | 832       | 836  | 3.7 | 2703     | 8.7        | 114          |
|      |           |           | 851  | 856        | 861  | 866  | 871  | 876  | 880       | 885  | 3.8 | 2632     | 8.8        | 118          |
| 88   | 841       | 846       |      |            |      | 1    |      |      |           |      | 3.9 | 2564     | 8.9        | 112          |
| 89   | 890       | 895       | 900  | 905        | 910  | 915  | 919  | 924  | 929       | 934  | 4.0 | 0.2500   | 9.0        | 0.111        |
| 390  | 94 939    | 944       | 949  | <b>954</b> | 959  | 963  | 968  | 973  | 978       | 983  | 4.1 | 2439     | 9.1        | 109          |
| 91   | 988       | 993       | 998  | *002       | *007 | *012 | *017 | *022 | *027      | *032 | 4.2 | 2381     | 9.2        | 108          |
| 92   | 95 036    | 041       | 046  | 051        | 056  | 061  | 066  | 071  | 075       | 080  | 4.3 | 2326     | 9.3        | 107          |
| 93   | 085       | 090       | 095  | 100        | 105  | 109  | 114  | 119  | $\bf 124$ | 129  | 4.4 | 2273     | 9.4        | 106          |
| 94   | 134       | 139       | 143  | 148        | 153  | 158  | 163  | 168  | 173       | 177  | 4.5 | 2222     | 9.5        | 105          |
| 95   | 182       | 187       | 192  | 197        | 202  | 207  | 211  | 216  | 221       | 226  | 4.6 | 2174     | 9.6        | 104          |
| 96   | 231       | 236       | 240  | 245        | 250  | 255  | 260  | 265  | 270       | 274  | 4.7 | 2128     | 9.7        | 103          |
| 97   | 279       | 284       | 289  | 294        | 299  | 303  | 308  | 313  | 318       | 323  | 4.8 | 2083     | 9.8        | 102          |
| 98   | 328       | 332       | 337  | 342        | 347  | 352  | 357  | 361  | 366       | 371  | 4.9 | 2041     | 9.9        | 101          |
| 99   | 376       | 381       | 386  | 390        | 395  | 400  | 405  | 410  | 415       | 419  | 5.0 | 0.2000   | 10.0       | 0.100        |
|      |           |           |      |            |      |      |      |      |           | "    |     |          |            |              |
| 000  | ó         | 1         | 2 .  | 3          | 4    | 5    | 6    | 7    | 8         | 9    |     | RECIPE   | OCAT       | 2            |

| 900             | 0         | 1    | 2            | 3                 | 4                 | 5    | 6    | 7    | 8    | 9           | Differences.                                    |
|-----------------|-----------|------|--------------|-------------------|-------------------|------|------|------|------|-------------|---|
| 900             | 95 424    | 429  | 434          | 439               | 444               | 448  | 453  | 458  | 463  | 468         |   |
| 01              | 472       | 477  | 482          | 487               | 492               | 497  | 501  | 506  | 511  | 516         |   |
| 02              | 521       | 525  | 530          | 535               | 540               | 545  | 550  | 554  | 559  | 564         |   |
| 03              | 569       | 574  | 578          | 583               | 588               | 593  | 598  | 602  | 607  | 612         | -   |
| 04              | 617       | 622  | 626          | 631               | 636               | 641  | 646  | 650  | 655  | 660         |   |
| 05              | 665       | 670  | 674          | 679               | 684               | 689  | 694  | 698  | 703  | 708         |   |
| 06              | 713       | 718  | 722          | 727               | 732               | 737  | 742  | 746  | 751  | 756         |   |
| 07              | 761       | 766  | 770          | 775               | 780               | 785  | 789  | 794  | 799  | 804         | 3   |
| . 08            | 809       | 813  | 818          | 823               | 828               | 832  | 837  | 842  | 847  | 852         |   |
| 09              | 856       | 861  | 866          | 871               | 875               | 880  | 885  | 890  | 895  | 899         |   |
|                 |           |      |              |                   |                   |      |      |      |      |             |   |
| 910             | 95 904    | 909  | 914          | 918               | 923               | 928  | 933  | 938  | 942  | 947         | 5   |
| 11              | 952       | 957  | 961          | 966               | 971               | 976  | 980  | 985  | 990  | 995         | 1 1   |
| 12              | 999       | *004 | *009         | *014              | *019              | *023 | *028 | *033 | *038 | *042        | 2 1   |
| 13              | 96 047    | 052  | 057          | 061               | 066               | 071  | 076  | 080  | 085  | 090         | 3 2   |
| 14              | 095       | 099  | 104          | 109               | 114               | 118  | 123  | 128  | 133  | 137         | 4 2<br>5 8                                      |
| 15              | 142       | 147  | 152          | 156               | 161               | 166  | 171  | 175  | 180  | 185         | 6 3   |
| 16              | 190       | 194  | 199          | 204               | 209               | 213  | 218  | 223  | 227  | 232         | 7 4   |
| 17              | 237       | 242  | 246          | 251               | 256               | 261  | 265  | 270  | 275  | <b>2</b> 80 | 8 4   |
| 18              | 284       | 289  | 294          | 298               | 303               | 308  | 313  | 317  | 322  | 327         | 9 5   |
| 19              | 332       | 336  | 341          | 346               | 350               | 355  | 360  | 365  | 369  | 374         |   |
| 920             | 96 379    | 384  | 388          | 393               | 398               | 402  | 407  | 412  | 417  | 421         |   |
| 21              | 426       | 431  | 435          | 440               | 445               | 450  | 454  | 459  | 464  | 468         |   |
| 22              | 473       | 478  | 483          | 487               | 492               | 497  | 501  | 506  | 511  | 515         |   |
| 23              | 520       | 525  | 530          | 534               | 539               | 544  | 548  | 553  | 558  | 562         |   |
| 24              | 567       | 572  | 577          | 581               | 586               | 591  | 595  | 600  | 605  | 609         |   |
| 1               |           |      |              |                   |                   |      |      |      |      |             |   |
| 25              | 614       | 619  | 624          | 628               | 633               | 638  | 642  | 647  | 652  | 656         |   |
| 26              | 661       | 666  | 670          | 675               | 680               | 685  | 689  | 694  | 699  | 703         |   |
| 27              | 708       | 713  | 717          | 722               | 727               | 731  | 736  | 741  | 745  | 750         |   |
| 28              | 755       | 759  | 764          | 769               | 774               | 778  | 783  | 788  | 792  | 797         |   |
| 29              | 802       | 806  | 811          | 816               | 820               | 825  | 830  | 834  | 839  | 844         |   |
| 930             | 96.848    | 853  | 858          | 862               | 867               | 872  | 876  | 881  | 886  | 890         | 4   |
| 31              | 895       | 900  | 904          | 909               | 914               | 918  | 923  | 928  | 932  | 937         | $\begin{array}{ccc} 1 & 0 \\ 2 & 1 \end{array}$ |
| 32              | 942       | 946  | 951          | 956               | 960               | 965  | 970  | 974  | 979  | 984         | 3 1   |
| 33              | 988       | 993  | 997          | *002              | *007              | *011 | *016 | *021 | *025 | *030        | 4 2   |
| 34              | $97\ 035$ | 039  | 044          | 049               | 053               | 058  | 063  | 067  | 072  | 077         | 5 2<br>6 2                                      |
| 35              | 081       | 086  | 090          | 095               | 100               | 104  | 109  | 114  | 118  | 123         | 7 8   |
| 36              | 128       | 132  | 137          | 142               | 146               | 151  | 155  | 160  | 165  | 169         | 8 8   |
| 37              | 174       | 179  | 183          | 188               | 192               | 197  | 202  | 206  | 211  | 216         | 9 4   |
| 38              | 220       | 225  | 230          | 234               | 239               | 243  | 248  | 253  | 257  | 262         |   |
| 39              | 267       | 271  | 276          | $\frac{234}{280}$ | $\frac{285}{285}$ | 290  | 294  | 299  | 304  | 308         |   |
| - 1             |           |      |              |                   |                   |      |      |      |      |             |   |
| 940             | 97 313    | 317  | 322          | 327               | 331               | 336  | 340  | 345  | 350  | 354         |   |
| 41              | 359       | 364  | 368          | 373               | 377               | 382  | 387  | 391  | 396  | 400         |   |
| 42              | 405       | 410  | 414          | 419               | 424               | 4 28 | 433  | 437  | 442  | 447         |   |
| 43              | 451       | 456  | 460          | 465               | 470               | 474  | 479  | 483  | 488  | 493         |   |
| 44              | 497       | 502  | 506          | 511               | 516               | 520  | 525  | 529  | 534  | 539         |   |
| 45              | 543       | 548  | 552          | 557               | 562               | 566  | 571  | 575  | 580  | 585         |   |
| 46              | 589       | 594  | 598          | 603               | 607               | 612  | 617  | 621  | 626  | 630         |   |
| 47              | 635       | 640  | 644          | 649               | 653               | 658  | 663  | 667  | 672  | 676         |   |
| 48              | 681       | 685  | 690          | 695               | 699               | 704  | 708  | 713  | 717  | 722         |   |
| 49              | 727       | 731  | 736          | 740               | 745               | 749  | 754  | 759  | 763  | 768         |   |
| $\frac{1}{950}$ | 0         | 1    | $\frac{}{2}$ | 3                 | 4                 | 5    | 6    | 7    | 8    | 9           | Differences.                                    |

| 950 97 772 51 818 52 864 53 909 54 955 55 98 000 56 046 57 091 58 137 59 182 960 98 227 61 272 62 318 63 363 64 408 65 453 66 498 67 543 68 588 69 632 970 98 677 71 722 767 73 811 74 856 75 900 76 945 77 989 78 99 034 79 978 980 99 123 81 167 82 211 83 255 84 300 85 344 86 388 87 432 88 476 89 520 990 99 564 91 90 564 91 92 651 93 695 94 739 95 782 96 826  | 0     | 1            | 2         | 3            | . 4          | 5          | 6            | 7                 | 8              | 9            |         | AND TANG |          |
|--|-------|--------------|-----------|--------------|--------------|------------|--------------|-------------------|----------------|--------------|---------|----------|----------|
| 51         818           52         864           53         909           54         955           55         98 000           56         046           57         091           58         137           59         182           960         98 227           61         272           62         318           63         363           64         408           65         453           66         498           67         543           68         588           69         632           970         98 677           71         722           76         73           811         4           75         900           76         945           77         989           78         99 034           79         98           99         123           81         167           82         211           83         255           84         300           85         344   | 772   | 777          | 782       | 786          | 791          | 795        | 800          | 804               | 809            | 813          | DEG.    | SINE,    | TAN.     |
| 52         864           53         909           54         955           55         98 000           56         046           57         091           58         137           59         182           960         98 227           61         272           62         318           63         363           64         408           65         453           66         498           67         543           68         588           69         632           970         98 677           71         722           76         73           811         74           856         945           77         989           78         99 034           79         078           980         99 123           81         167           82         211           83         255           84         300           85         344           86         388           87         432 </td <td></td> <td>823</td> <td>827</td> <td>832</td> <td>836</td> <td>841</td> <td>845</td> <td>850</td> <td>855</td> <td>859</td> <td>0000′</td> <td>4.68 557</td> <td>4.68 557</td> |       | 823          | 827       | 832          | 836          | 841        | 845          | 850               | 855            | 859          | 0000′   | 4.68 557 | 4.68 557 |
| 53         909           54         955           55         98 000           56         046           57         091           58         137           59         182           960         98 227           61         272           62         318           63         363           64         408           65         453           66         498           67         543           68         588           69         632           970         98 677           71         722           72         767           73         811           74         856           75         900           76         945           77         989           78         99 034           79         980           99 123         167           82         211           83         255           84         300           85         344           86         388           87         432 </td <td></td> <td>868</td> <td>873</td> <td>877</td> <td>882</td> <td>886</td> <td>891</td> <td>896</td> <td>900</td> <td>905</td> <td>05</td> <td>557</td> <td>558</td>              |       | 868          | 873       | 877          | 882          | 886        | 891          | 896               | 900            | 905          | 05      | 557      | 558      |
| 54         955           55         98 000           56         046           57         091           58         137           59         182           960         98 227           61         272           62         318           63         363           64         408           65         453           66         498           67         543           68         588           69         632           970         98 677           71         722           72         767           73         811           74         856           75         900           76         945           77         989           78         99 034           79         078           980         99 123           81         167           82         211           83         255           84         300           85         344           86         388           87         432 </td <td></td> <td>914</td> <td>918</td> <td>923</td> <td>928</td> <td>932</td> <td>937</td> <td>941</td> <td>946</td> <td>950</td> <td>10</td> <td>557</td> <td>558</td>              |       | 914          | 918       | 923          | 928          | 932        | 937          | 941               | 946            | 950          | 10      | 557      | 558      |
| 55         98 000           56         046           57         091           58         137           59         182           960         98 227           61         272           62         318           63         363           64         408           65         453           66         498           67         543           68         588           69         632           70         98 677           71         722           72         767           73         811           74         856           75         900           76         945           77         989           78         99 034           79         989           78         99 034           79         989           81         167           82         211           83         255           84         300           85         344           86         388           87         432 <td></td> <td>959</td> <td>964</td> <td>968</td> <td>973</td> <td>978</td> <td>982</td> <td>987</td> <td>991</td> <td>996</td> <td>15</td> <td>557</td> <td>558</td>                     |       | 959          | 964       | 968          | 973          | 978        | 982          | 987               | 991            | 996          | 15      | 557      | 558      |
| 56         046           57         091           58         137           59         182           960         98 227           61         272           62         318           63         363           64         408           65         453           66         498           67         543           68         588           69         632           970         98 677           71         722           76         73           71         74           85         90           75         900           76         945           77         989           78         99 034           79         078           980         99 123           81         167           82         211           83         255           84         300           85         344           86         388           87         432           88         476           89         520  |       |              |           |              |              |            |              |                   |                |              | 20      | 557      | 558      |
| 57         091           58         137           59         182           960         98 227           61         272           62         318           63         363           64         408           65         453           66         498           67         543           68         588           69         632           970         98 677           71         722           767         73           811         74           85         90           78         99           980         99           980         99           81         167           82         211           83         255           84         300           85         344           86         388           87         432           88         476           89         520           990         99           94         79           95         782           96         826   |       | 005          | 009       | 014          | 019          | 023        | 028          | 032               | 037            | 041          | 20      | 001      | 000      |
| 58         137           59         182           960         98 227           61         272           62         318           63         363           64         408           65         453           66         498           67         543           68         588           69         632           970         98 677           71         722           72         767           73         811           74         856           75         900           76         945           77         989           78         99 034           79         078           980         99 123           81         167           82         211           83         255           84         300           85         344           86         388           87         432           88         476           89         520           990         99 564           91         607<  |       | 050          | 055       | 059          | 064          | 068        | 073          | 078               | 082            | 087          | 25      | 557      | 558      |
| 59         182           960         98 227           61         272           62         318           63         363           64         408           65         453           66         498           67         543           68         588           69         632           970         98 677           71         722           76         73           811         74           856         90           75         900           76         945           77         989           78         99 034           79         078           980         99 123           81         167           82         211           83         255           84         300           85         344           86         388           87         432           88         476           89         520           990         99 564           91         607           92         651 </td <td></td> <td>096</td> <td>100</td> <td>105</td> <td>109</td> <td>114</td> <td>118</td> <td>123</td> <td>127</td> <td>132</td> <td>. 30</td> <td>557</td> <td>559</td>            |       | 096          | 100       | 105          | 109          | 114        | 118          | 123               | 127            | 132          | . 30    | 557      | 559      |
| 960 98 227 61 272 62 318 63 363 64 408 65 453 66 498 67 543 68 588 69 632 970 98 677 71 722 72 767 73 811 74 856 75 900 76 945 77 989 78 99 034 79 078 980 99 123 81 167 82 211 83 255 84 300 85 344 86 388 87 432 88 476 89 520 990 99 564 91 607 92 651 93 695 94 739 95 782 96 826  |       | 141          | 146       | 150          | 155          | 159        | 164          | 168               | 173            | 177          | 35      | 557      | 559      |
| 61   | 182   | 186          | 191       | 195          | 200          | 204        | 209          | 214               | 218            | 223          | 40      | 557      | 559      |
| 62         318           63         363           64         408           65         453           66         498           67         543           68         588           69         632           970         98           71         722           72         767           73         811           74         856           75         900           76         945           77         989           78         99         034           79         078           980         99         123           81         167         82           211         83         255           84         300         344           86         388         476           89         520           990         99         564           91         92         651           93         695           94         739           95         94         739           95         96         826   | 227   | 232          | 236       | 241          | 245          | 250        | 254          | 259               | 263            | 268          | 45      | 556      | 560      |
| 63   | 272   | 277          | 281       | 286          | 290          | 295        | 299          | 304               | 308            | 313          | 50      | 556      | 561      |
| 63   |       | 322          | 327       | 331          | 336          | 340        | 345          | 349               | 354            | 358          | 55      | 556      | 561      |
| 64 408 65 453 66 498 67 543 68 588 69 632 970 98 677 71 722 72 767 73 811 74 856 75 900 76 945 77 989 78 99 034 79 078 81 167 82 211 83 255 84 300 85 344 86 388 87 432 88 476 89 520 990 99 564 91 607 92 651 93 695 94 739 95 782 96 826   |       | 367          | 372       | 376          | 381          | 385        | 390          | 394               | 399            | 403          | 1000'   | 4.68 555 | 4.68 562 |
| 65 453 66 498 67 543 68 588 69 632 970 98 677 71 722 72 767 73 811 74 856 75 900 76 945 77 989 78 99 034 79 078 81 167 82 211 83 255 84 300 85 344 86 388 87 432 88 476 89 520 990 99 564 91 607 92 651 93 695 94 739 95 782 96 826  |       | 412          | 417       | 421          | 426          | 430        | 435          | 439               | 444            | 448          | 05      | 555      | 563      |
| 66   |       |              |           |              |              |            |              |                   |                |              | 10      | 554      | 563      |
| 67 543 68 588 69 632 970 98 677 71 722 72 767 73 811 74 856 75 900 76 945 77 989 78 99 034 79 078 980 99 123 81 167 82 211 83 255 84 300 85 344 86 388 87 432 88 476 89 520 990 99 564 91 607 92 651 93 695 94 739 95 782 96 826   |       | 457          | 462       | 466          | 471          | 475        | 480          | 484               | 489            | 493          |         |          |          |
| 68   |       | 502          | 507       | 511          | 516          | 520        | 525          | 529               | 534            | •            | 15      | 554      | 564      |
| 69 632 970 98 677 71 722 72 767 73 811 74 856 75 900 76 945 77 989 78 99 034 79 078 980 99 123 81 167 82 211 83 255 84 300 85 344 86 388 87 432 88 476 89 520 990 99 564 91 607 92 651 93 695 94 739 95 782 96 826   |       | 547          | 552       | 556          | 561          | 565        | 570          | 574               | 579            | 583          | 20      | 554      | 565      |
| 970  |       | 592          | 597       | 601          | 605          | 610        | 614          | 619               | 623            | 628          | 25      | 553      | 566      |
| 71         722           72         767           73         811           74         856           75         900           76         945           77         989           78         99 034           79         078           980         99 123           81         167           82         211           83         255           84         300           85         344           86         388           87         432           88         476           89         520           990         99 564           91         607           92         651           93         695           94         739           95         782           96         826   | 632   | 637          | 641       | 646          | 650          | 655        | 659          | 664               | 668            | 673          | 30      | 553      | 567      |
| 72       767         73       811         74       856         75       900         76       945         77       989         78       99 034         79       078         980       99 123         81       167         82       211         83       255         84       300         85       344         86       388         87       432         88       476         89       520         990       99 564         91       607         92       651         93       695         94       739         95       782         96       826  | 677   | 682          | 686       | 691          | 695          | 700        | 704          | 709               | 713            | 717          | 35      | 552      | 569      |
| 72     767       73     811       74     856       75     900       76     945       77     989       78     99 034       79     078       980     99 123       81     167       82     211       83     255       84     300       85     344       86     388       87     432       88     476       89     520       990     99 564       91     607       92     651       93     695       94     739       95     782       96     826  | 722   | 726          | 731       | 735          | 740          | 744        | 749          | 753               | 758            | 762          | 40      | 551      | 570      |
| 73       811         74       856         75       900         76       945         77       989         78       99 034         79       078         980       99 123         81       167         82       211         83       255         84       300         85       344         86       388         87       432         88       476         89       520         990       99 564         91       607         92       651         93       695         94       739         95       782         96       826   | 767   | 771          | 776       | 780          | 784          | 789        | 793          | 798               | 802            | 807          | 45      | 551      | 571      |
| 74     856       75     900       76     945       77     989       78     99 034       79     078       980     99 123       81     167       82     211       83     255       84     300       85     344       86     388       87     432       88     476       89     520       990     99 564       91     607       92     651       93     695       94     739       95     782       96     826  |       | 816          | 820       | 825          | 829          | 834        | 838          | 843               | 847            | 851          | 50      | 550      | 572      |
| 75 900 76 945 77 989 78 99 034 79 078 980 99 123 81 167 82 211 83 255 84 300 85 344 86 388 87 432 88 476 89 520 990 99 564 91 607 92 651 93 695 94 739 95 782 96 826   |       | 860          | 865       | 869          | 874          | 878        | 883          | 887               | 892            | 896          | 55      | 549      | 574      |
| 76     945       77     989       78     99 034       79     078       980     99 123       81     167       82     211       83     255       84     300       85     344       86     388       87     432       88     476       89     520       990     99 564       91     607       92     651       93     695       94     739       95     782       96     826  |       |              |           |              |              |            | prompty      |                   | and the second |              | 2000'   | 4.68 549 | 4.68 575 |
| 77         989           78         99 034           79         078           980         99 123           81         167           82         211           83         255           84         300           85         344           86         388           87         432           88         476           89         520           990         99 564           91         607           92         651           93         695           94         739           95         782           96         826   |       | 905          | 909       | 914          | 918          | 923        | 927          | 932               | 936            | 941          |         |          |          |
| 78   |       | 949          | 954       | 958          | 963          | 967        | 972          | 976               | 981            | 985          | 05      | 548      | 577      |
| 79     078       980     99 123       81     167       82     211       83     255       84     300       85     344       86     388       87     432       88     476       89     520       990     99 564       91     607       92     651       93     695       94     739       95     782       96     826  |       | 994          | 998       | *003         | *007         | *012       | *016         | *021              | *025           | *029         | 10      | 547      | 578      |
| 980 99 123<br>81 167<br>82 211<br>83 255<br>84 300<br>85 344<br>86 388<br>87 432<br>88 476<br>89 520<br>990 99 564<br>91 607<br>92 651<br>93 695<br>94 739<br>95 782<br>96 826   |       | 038          | 043       | 047          | 052          | 056        | 061          | 065               | 069            | 074          | 15      | 546      | 580      |
| 81     167       82     211       83     255       84     300       85     344       86     388       87     432       88     476       89     520       990     99     564       91     607       92     651       93     695       94     739       95     782       96     826  | 078   | 083          | 087       | 092          | 096          | 100        | 105          | 109               | 114            | 118          | 20      | 545      | 582      |
| 82     211       83     255       84     300       85     344       86     388       87     432       88     476       89     520       990     99 564       91     607       92     651       93     695       94     739       95     782       96     826   | 123   | 127          | 131       | 136          | 140          | 145        | 149          | 154               | 158            | 162          | 25      | 545      | 589      |
| 83     255       84     300       85     344       86     388       87     432       88     476       89     520       990     99 564       91     607       92     651       93     695       94     739       95     782       96     826  | 167   | 171          | 176       | 180          | 185          | 189        | 193          | 198               | 202            | 207          | 30      | 544      | 585      |
| 84     300       85     344       86     388       87     432       88     476       89     520       990     99 564       91     607       92     651       93     695       94     739       95     782       96     826   | 211   | 216          | 220       | 224          | 229          | 233        | 238          | 242               | 247            | 251          | 35      | 543      | 587      |
| 85 344<br>86 388<br>87 432<br>88 476<br>89 520<br>990 99 564<br>91 607<br>92 651<br>93 695<br>94 739<br>95 782<br>96 826   | 255   | 260          | 264       | 269          | 273          | 277        | 282          | 286               | 291            | 295          | 40      | 542      | • 589    |
| 86     388       87     432       88     476       89     520       990     99 564       91     607       92     651       93     695       94     739       95     782       96     826   | 300   | 304          | 308       | 313          | 317          | 322        | 326          | 330               | 335            | 339          | 45      | 541      | 591      |
| 86     388       87     432       88     476       89     520       990     99 564       91     607       92     651       93     695       94     739       95     782       96     826   | 0.1.1 | 0.40         | 0.50      | 0.55         | 0.01         | 200        | 250          | 074               | 070            | 0.00         | 50      | 540      | 593      |
| 87     432       88     476       89     520       990     99 564       91     607       92     651       93     695       94     739       95     782       96     826  |       | 348          | 352       | 357          | 361          | 366        | 370          | $\frac{374}{419}$ | 379            | 383          |         | *00      | 505      |
| 88     476       89     520       990     99 564       91     607       92     651       93     695       94     739       95     782       96     826   |       | 392          | 396       | 401          | 405          | 410        | 414          |                   | 423            | 427          | 55      | 539      | 595      |
| 89     520       990     99 564       91     607       92     651       93     695       94     739       95     782       96     826  |       | 436          | 441       | 445          | 449          | 454        | 458          | 463               | 467            | 471          | 3000′   | 4.68 538 | 4.68 597 |
| 990 99 564<br>91 607<br>92 651<br>93 695<br>94 739<br>95 782<br>96 826   |       | 480          | 484       | 489          | 493          | 498        | 502          | 506               | 511            | 515          | 05      | 537      | 599      |
| 91 607<br>92 651<br>93 695<br>94 739<br>95 782<br>96 826   | 520   | 524          | 528       | 533          | 537          | 542        | 546          | 550               | 555            | 559          | 10      | 585      | 602      |
| 92 651<br>93 695<br>94 739<br>95 782<br>96 826   | 564   | 568          | 572       | 577          | 581          | 585        | 590          | 594               | 599            | 603          | 15      | 534      | 604      |
| 93 695<br>94 739<br>95 782<br>96 826   | 607   | 612          | 616       | 621          | 625          | 629        | 634          | 638               | 642            | 647          | 20      | 588      | 607      |
| 94     739       95     782       96     826   | 651   | 656          | 660       | 664          | 669          | 673        | 677          | 682               | 686            | 691          | 25      | 532      | 609      |
| 95<br>96 782<br>826  | 695   | 699          | 704       | 708          | 712          | 717        | 721          | 726               | 730            | 734          | 30      | 530      | 612      |
| 96 826   | 739   | 743          | 747       | 752          | 756          | 760        | 765          | 769               | 774            | 778          | 35      | 529      | 614      |
| 96 826   |       |              |           |              | 800          |            | 808          | 219               | 817            | 822          | 40      | 528      | 617      |
| i  |       | 787          | 791       | 795          |              | 804        |              | $813 \\ 856$      | 861            |              | 45      | 526      | 620      |
|  |       | 830          | 835       | 839          | 843          | 848        | 852          |                   |                | 865          | 50      | 525      | 622      |
| 97 870   |       | 874          | 878       | 883          | 887          | 891        | 896          | 900               | 904            | 909          | 55      | 524      | 625      |
| 98 913<br>99 957   |       | $917 \\ 961$ | 922 $965$ | $926 \\ 970$ | $930 \\ 974$ | 935<br>978 | $939 \\ 983$ | $944 \\ 987$      | $948 \\ 991$   | $952 \\ 996$ | 4000′   | 522      | 628      |
| $\frac{1}{1000} = 0$   |       | 1            | 2         | 3            | 4            | 5          | 6            | 7                 | 8              | 9            | SINES A | AND TAN  | GENTS (  |

| $0^{\circ}$  |         | SINES.           |       |          | Cosines.        |      | TAN     | GENTS.      |       | COTANG                  | ENTS.  | 179  |
|--------------|---------|------------------|-------|----------|-----------------|------|---------|-------------|-------|-------------------------|--------|------|
| U            | Nat.    | Log.             | Dif.  | Nat.     | Log.            | Dif. | Nat.    | Log.        | Dif.  | Log.                    | Nat.   | 1.00 |
|              | 1       |                  |       | 1        | 0.00.000        |      |         |             |       |                         |        |      |
| 0'           | .00 000 | 00               | 00    | 1.0000   | 0.00 000        | .00  | .00 000 | 00          | 00    | 00                      | co     | 60   |
| 1            | 029     | $6.46\ 373$      | 501.7 | 000      | 000             |      | 029     | 6.46 373    | 501.7 | 3.53627                 | 3437.7 | 59   |
| 2            | 058     | 6.76476          | 293.5 | 000      | 000             |      | 058     | 6.76476     | 293.5 | $3.23\ 524$             | 1718.9 | 58   |
| 3            | 087     | $6.94\ 085$      | 208.2 | 000      | 000             |      | 087     | 6.94 085    | 208.2 | 3.05915                 | 1145.9 | 57   |
| 4            | 116     | 7.06579          | 161.5 | 000      | 000             |      | 116     | 7.06579     | 161.5 | $2.93\ 421$             | 859.44 | 56   |
| 5            | 145     | 7.16 270         | 132.0 | 000      | 000             |      | 145     | 7.16 270    | 132.0 | 2.83730                 | 687.55 | 55   |
| 6            | 175     | 7.24 188         | 111.6 | 000      | 000             |      | 175     | 7.24 188    | 111.6 | 2.75 812                | 572.96 | 54   |
| 7            | 204     | 7.30 882         | 96.7  | 000      | 000             |      | 204     | 7.30 882    | 96.7  | 2.69 118                | 491.11 | 53   |
| 8            | 233     | 7.36 682         | \$5.3 | 000      | 000             |      | 233     | 7.36 682    | 85.3  | 2.63 318                | 429.72 | 5:   |
| 9            | 262     | 7.41 797         |       | 000      | 000             |      | 262     | 7.41 797    | 76.3  |                         |        | 1    |
|              |         |                  | 76.3  |          |                 |      | 1       |             |       | 2.58 203                | 381.97 | 5    |
| 10           | .00 291 | 7.46 373         | 69.0  | 1.0000   | $0.00\ 000$     | .00  | .00 291 | 7.46373     | 69.0  | $2.53\ 627$             | 343.77 | 50   |
| 11           | 320     | $7.50\ 512$      | 63.0  | .99 999  | 000             |      | 320     | $7.50\ 512$ | 63.0  | $2.49\ 488$             | 312.52 | 49   |
| 12           | 349     | 7.54 291         | 57.9  | 999      | 000             |      | 349     | 7.54 291    | 57.9  | 2.45709                 | 286.48 | 48   |
| 13           | 37S     | 7.57 767         | 53.6  | 999      | 000             |      | 378     | 7.57767     | 53.7  | $2.42\ 233$             | 264.44 | 4    |
| 14           | 407     | 7.60985          | 50.0  | 999      | 000             |      | 407     | 7.60986     | 49.9  | $2.39\ 014$             | 245.55 | 4    |
|              | 436     | 7.63 982         | 46.7  | 999      | 000             |      | 436     | 7.63 982    | 46.7  | 2.36 018                | 229.18 |      |
| 15           |         |                  |       | 1        |                 | 00   | 1       |             |       |                         |        | 43   |
| 16           | 465     | 7.66 784         | 43.9  | 999      | 000             | .02  | 465     | 7.66 785    | 43.9  | 2.33 215                | 214.86 | 4.   |
| 17           | 495     | 7.69 417         | 41.4  | 999      | 9.99 999        | .00  | 495     | 7.69 418    | 41.4  | 2.30 582                | 202.22 | 4:   |
| 18           | 524     | 7.71 900         | 39.1  | 999      | 999             |      | 524     | 7.71 900    | 39.1  | 2.28 100                | 190.98 | 4:   |
| 19           | 553     | 7.74 248         | 37.1  | 998      | 999             |      | 553     | 7.74 248    | 37.1  | 2.25752                 | 180.93 | 4    |
| 20           | .00 582 | 7.76 475         | 35.3  | .99 998  | 9.99 999        | .00  | .00 582 | 7.76 476    | 35.3  | $2.23\ 524$             | 171.89 | 4    |
| 21           | 611     | 7.78 594         | 33.7  | 998      | 999             |      | 611     | 7.78 595    | 33.7  | 2.21 405                | 163.70 | 3    |
| 22           | 640     | 7.80 615         | 32,2  | 998      | 999             |      | 640     | 7.80 615    | 32.2  | 2.19 385                | 156.26 | 3    |
| 23           | 669     | 7.82 545         | 30.8  | 998      | 999             |      | 669     | 7.82 546    | 30.8  | $2.15\ 365$ $2.17\ 454$ | 149.47 | 3    |
|              | 1       |                  |       | 1        | 999             |      |         |             |       |                         |        | 1    |
| 24           | 698     | 7.84 393         | 29.6  | 998      | 999             |      | 698     | 7.84 394    | 29.6  | $2.15\ 606$             | 143.24 | . 3  |
| 25           | 727     | 7.86166          | 28.4  | 997      | 999             |      | 727     | $7.86\ 167$ | 28.4  | 2.13833                 | 137.51 | 3    |
| 26           | 756     | 7.87 870         | 27.3  | 997      | 999             |      | 756     | 7.87 871    | 27.3  | $2.12\ 129$             | 132.22 | .3   |
| 27           | 785     | 7.89509          | 26.3  | 997      | 999             |      | 785     | 7.89510     | 26.3  | 2.10490                 | 127.32 | 3:   |
| 28           | 814     | 7.91 088         | 25.4  | 997      | 999             | .02  | 20815   | 7.91 089    | 25.4  | 2.08 911                | 122.77 | 3    |
| 29           | 844     | 7.92 612         | 24.5  | 996      | 998             | .00  | 844     | 7.92 613    | 24.6  | 2.07 387                | 118.54 | 3    |
|              |         |                  |       |          |                 |      |         |             |       |                         |        | 1    |
| 30           | .00 573 | 7.94084          | 23.7  | .99 996  | 9.99998         | .00  | .00 873 | 7.94~086    | 23.7  | 2.05914                 | 114.59 | 3    |
| 31           | 902     | $7.95\ 508$      | 23.0  | 996      | 998             |      | 902     | $7.95\ 510$ | 23.0  | $2.04\ 490$             | 110.89 | 2    |
| 32           | 931     | 7.96887          | 22.3  | 996      | 998             |      | 931     | 7.96889     | 22.3  | $2.03\ 111$             | 107.43 | 2    |
| 33           | 960     | 7.98223          | 21.6  | 995      | 998             |      | 960     | $7.98\ 225$ | 21.6  | 2.01775                 | 104.17 | 2    |
| 34           | 989     | 7.99520          | 21.0  | 995      | 998             |      | 989     | 7.99522     | 21.0  | 2.00478                 | 101.11 | 2    |
| 35           | .01 018 | 8.00 779         | 20.4  | 995      | 998             |      | .01 018 | 8.00 781    | 20,4  | 1.99 219                | 98.218 | 2    |
| 36           | 047     | 8.02 002         | 19.8  | 995      | 998             | .02  | 047     | 8.02 004    | 19.8  | 1.97 996                | 95.489 | . 2  |
|              |         |                  |       | 1        |                 |      | 1       |             |       |                         |        | 1    |
| 37           | 076     | 8.03 192         | 19.3  | 994      | 997             | .00  | 076     | 8.03 194    | 19.3  | 1.96 806                | 92.908 | 2    |
| 38           | 105     | 8.04 350         | 18.8  | 994      | 997             |      | 105     | 8.04 353    | 18.8  | 1.95 647                | 90.463 | 2    |
| 39           | 184     | $8.05\ 478$      | 18.3  | 994      | 997             |      | 135     | $8.05\ 481$ | 18.3  | $1.94\ 519$             | 88.144 | 2    |
| 40           | .01 164 | 8.06 578         | 17.9  | .99 993  | 9.99997         | .00  | .01 164 | $8.06\;581$ | 17.9  | $1.93\ 419$             | 85.940 | 2    |
| 41           | 193     | 8.07 650         | 17.4  | 993      | 997             |      | 193     | 8.07 653    | 17.5  | 1.92 347                | 83,844 | 1    |
| 42           | 222     | 8.08 696         | 17.0  | 993      | 997             |      | 222     | 8.08 700    | 17.0  | 1.91 300                | 81.847 | 1    |
| 43           | 251     | 8.09 718         | 16.7  | 992      | 997             | .02  | 251     | 8.09 722    | 16.6  | $1.90\ 278$             | 79.943 | 1    |
| 44           | 250     | 8.10 717         | 16.3  | 992      | 996             | .00  | 280     | 8.10 720    | 16.3  | 1.89 280                | 78.126 | 1    |
|              |         |                  |       | 1        |                 | .00  | ]       |             |       |                         |        |      |
| 45           | 309     | 8.11 693         | 15.9  | 991      | 996             |      | 309     | 8.11 696    | 15.9  | $1.88\ 304$             | 76.390 | 1    |
| 46           | 335     | $8.12\ 647$      | 15.6  | 991      | 996             |      | 338     | $8.12\ 651$ | 15.6  | 1.87 349                | 74.729 | 1.   |
| 47           | 367     | $8.13\ 581$      | 15.2  | 991      | 996             |      | 367     | $8.13\ 585$ | 15.3  | $1.86\ 415$             | 73.139 | 1.   |
| 48           | 396     | $8.14\ 495$      | 14.9  | 990      | 996             |      | 396     | $8.14\ 500$ | 14.9  | $1.85\ 500$             | 71.615 | 1    |
| 49           | 425     | $8.15\ 391$      | 14.6  | 990      | 996             | .02  | 425     | $8.15\ 395$ | 14.6  | $1.84\ 605$             | 70.153 | 1    |
|              |         |                  |       |          |                 |      |         |             |       | 1.83 727                |        | 1    |
| 50           | .01 454 | 8,16 268         | 14.3  | .99 989  | 9.99 995        | .00  | .01 455 | 8.16 273    | 14.3  |                         | 68.750 |      |
| 51           | 453     | 8.17 128         | 14.1  | 989      | 995             |      | 484     | 8.17 133    | 14.1  | 1.82 867                | 67.402 |      |
| 52           | 513     | 971              | 18.5  | 959      | 995             |      | 513     | 976         | 13.8  | 024                     | 66.105 |      |
| 53           | 542     | 8.18 798         | 13.5  | 955      | 995             |      | 542     | 8.18 804    | 13.5  | 1.81 196                | 64.858 |      |
| 54           | 571     | 8.19 610         | 13.3  | 955      | 995             | .02  | 571     | 8.19 616    | 13.3  | $1.80\ 384$             | 63.657 | 1    |
| 55           | 600     | 8.20 407         | 13.0  | 987      | 994             | .00  | 600     | 8.20 413    | 13.0  | 1.79587                 | 62.499 |      |
| 56           | 629     | 8.21 189         | 12.5  | 957      | 994             |      | 629     | 8.21 195    | 12.8  | 1.78 805                | 61.383 | 4    |
| 57           | 658     | 958              | 12.6  | 956      | . 994           |      | 658     | 964         | 12.6  | 036                     | 60.306 |      |
| 58           | 657     | 8.22 713         | 12.4  | 956      | 994             |      | 687     | 8.22 720    | 12.4  | 1.77 280                | 59.266 |      |
|              |         |                  |       |          |                 | 00   | 1       |             |       |                         |        |      |
| 59           | 716     | $8.23\ 456$      | 12.2  | 955      | 994             | .02  | 716     | 8.23 462    | 12.2  | 1.76538                 | 58.261 |      |
| 60           | .01 745 | 8.24 186         |       | .99 955  | 9.99 993        |      | .01 746 | 8.24 192    |       | 1.75 808                | 57.290 | (    |
| 000          | Nat.    | Log.             | Dif.  | Nat.     | Log.            | Dif. | Nat.    | ` Log.      | Dif.  | Log.                    | Nat.   | 89   |
| $90^{\circ}$ |         | Cosines.         |       | 400 0000 | SINES.          |      | Com     | ANGENTS.    |       | TANG                    | ENTE   | 03   |
|              |         | 4 17/74 3 5.77 . |       | 1        | 1 14 17 5 177 . |      | 1 0017  |             |       | 1.75.457                |        | 4    |

| $1^{\circ}$ |         | SINES.      |      |            | Cosines. |      | TAN     | GENTS.      |      | COTAN                     | GENTS. | 17 |
|-------------|---------|-------------|------|------------|----------|------|---------|-------------|------|---------------------------|--------|----|
| i*          | Nat.    | Log.        | Dif. | Nat.       | Log.     | Dif. | Nat.    | Log.        | Dif. | Log.                      | Nat.   | 1. |
| 0'          | .01 745 | 8.24 186    | 12.0 | .99 985    | 9.99 993 | .00  | .01 746 | 8.24 192    | 12.0 | 1.75 808                  | 57.290 | 6  |
| 1           | 774     | 903         | 11.8 | 984        | 993      |      | 775     | 910         | 11.8 | 090                       | 56.351 | 5  |
| 2           | 803     | $8.25\ 609$ | 11.6 | 984        | 993      |      | 804     | $8.25\ 616$ | 11.6 | 1.74 384                  | 55.442 | 5  |
| 3           | 832     | $8.26\ 304$ | 11.4 | 983        | 993      | .02  | 833     | $8.26\ 312$ | 11.4 | 1.73 688                  | 54.561 | 5  |
| 4           | 862     | 988         | 11.2 | 983        | 992      | .00  | 862     | 996         | 11.2 | 004                       | 58.709 | 5  |
| 5           | 891     | 8.27 661    | 11.1 | 982        | 992      |      | 891     | 8.27 669    | 11.1 | 1 70 991                  |        |    |
| 6           | 920     | 8.28 324    | 10.9 | 982        | 992      |      | 920     | 8.28 332    | 10.9 | $1.72 \ 331$ $1.71 \ 668$ | 52.882 | 5  |
| 7           | 949     | 977         | 10.7 | 981        | 992      |      | 949     | 986         |      |                           | .081   | 5  |
| 8           | 978     | 8.29 621    | 10.6 | 980        | 992      | .02  | 1       |             | 10.7 | 014                       | 51.303 | 5  |
| 9           | .02 007 | 8.30 255    | 10.4 | 980        | 991      |      | 978     | 8.29 629    | 10.6 | 1.70 371                  | 50.549 | 5  |
|             |         |             |      |            |          | .00  | .02 007 | 8.30 263    | 10.4 | 1.69737                   | 49.816 | 5  |
| 10          | .02 036 | 8.30 879    | 10.3 | .99 979    | 9.99991  | .00  | .02 036 | 8.30888     | 10.3 | $1.69\ 112$               | 49.104 | 5  |
| 11          | 065     | 8.31 495    | 10.1 | 979        | 991      | .02  | 066     | $8.31\ 505$ | 10.1 | $1.68\ 495$               | 48.412 | 4  |
| 12          | 094     | 8,32 103    | 10.0 | 978        | 990      | .00  | 095     | $8.32\ 112$ | 10.0 | 1.67 888                  | 47.740 | 4  |
| 13          | 123     | 702         | 9.8  | 977        | 990      |      | 124     | 711         | 9.9  | 289                       | .085   | 4  |
| 14          | 152     | $8.33\ 292$ | 9.7  | 977        | 990      |      | 153     | $8.33\ 302$ | 9.7  | 1.66 698                  | 46,449 | 4  |
| 15          | 181     | 875         | 9.6  | 976        | 990      | 00   | 100     |             |      |                           |        |    |
| 16          | 211     | 8.34 450    | 9.5  | 976        |          | .02  | 182     | 886         | 9.6  | 114                       | 45.829 | 4  |
| 17          | 211     | 8.35 018    |      | 1          | 989      | .00  | 211     | 8.34 461    | 9.5  | 1.65 539                  | .226   | 4  |
| 18          |         |             | 9.3  | 975        | 989      |      | 240     | 8.35 029    | 9.4  | 1.64 971                  | 44.639 | 4  |
|             | 269     | 578         | 9.2  | 974        | 989      |      | 269     | 590         | 9.2  | 410                       | .066   | 4  |
| 19          | 298     | 8.36 131    | 9.1  | 974        | 989      | .02  | 298     | $8.36\ 143$ | 9.1  | 1.63857                   | 43.508 | 4  |
| 20          | .02 327 | $8.36\ 678$ | 9.0  | .99 973    | 9.99988  | .00  | .02 328 | 8.36 689    | 9.0  | 1.63 311                  | 42.964 | 4  |
| 21          | 356     | 8.37 217    | 8.9  | 972        | 988      |      | 357     | 8.37 229    | 8.9  | 1.62771                   | .433   | 3  |
| 22          | 385     | 750         | 8.8  | 972        | 988      | .02  | 386     | 762         | 8.8  | 238                       | 41.916 | 3  |
| 23          | 414     | 8.38 276    | 8.7  | 971        | 987      | .00  | 415     | 8.38 289    | 8.7  | 1.61 711                  | .411   | 3  |
| 24          | 443     | 796         | 8.6  | 970        | 987      | •00  | 444     | 809         | 8.6  | 191                       |        | 4  |
|             |         |             |      | L          |          |      |         |             | 0.0  |                           | 40.917 | 3  |
| 25          | 472     | 8.39 310    | 8.5  | 969        | 987      | .02  | 473     | $8.39\ 323$ | 8.5  | 1.60677                   | .436   | 38 |
| 26          | 501     | 818         | 8.4  | 969        | 986      | .00  | 502     | 832         | 8.4  | 168                       | 39.965 | 34 |
| $^{27}$     | 530     | $8.40\ 320$ | 8.3  | 968        | 986      |      | 531     | $8.40\ 334$ | 8.3  | $1.59\ 666$               | .506   | 33 |
| $^{28}$     | 560     | 816         | 8.2  | 967        | 986      | .02  | 560     | 830         | 8.2  | 170                       | .057   | 3: |
| $^{29}$     | 589     | $8.41\ 307$ | 8.1  | 966        | 985      | .00  | 589     | $8.41\ 321$ | 8.1  | $1.58\ 679$               | 38.618 | 3  |
| 30          | .02 618 | 8.41 792    | 8.0  | .99 966    | 9.99 985 | .00  | .02 619 | 8.41 807    | 0.0  |                           |        |    |
| 31          | 647     | 8.42 272    | 7.9  | 965        | 985      | .02  | l       |             | 8.0  | 1.58 193                  | 38.188 | 30 |
| 32          | 676     | 746         | 7.8  | 964        | 984      |      | 648     | 8.42 287    | 7.9  | 1.57 713                  | 37.769 | 29 |
| 33          | 705     |             |      | l .        |          | .00  | 677     | 762         | 7.8  | 238                       | .358   | 28 |
| 34          | 1       | 8.43 216    | 7.7  | 963        | 984      |      | 706     | 8.43 232    | 7.7  | 1.56768                   | 36.956 | 27 |
| 5 <b>4</b>  | 734     | 680         |      | 963        | 984      | .02  | 735     | 696         |      | 304                       | .563   | 26 |
| 35          | 763     | $8.44\ 139$ | 7.6  | 962        | 983      | .00  | 764     | $8.44\ 156$ | 7.6  | 1.55 844                  | .178   | 25 |
| 36          | 792     | 594         | 7.5  | 961        | 983      |      | 793     | 611         | 7.5  | 389                       | 35.801 | 24 |
| 37          | 821     | 8.45 044    | 7.4  | 960        | 983      | .02  | 822     | $8.45\ 061$ | 7.4  | 1.54939                   | .431   | 23 |
| 38          | 850     | 489         |      | 959        | 982      | .00  | 851     | 507         |      | 493                       | .070   | 22 |
| 39          | 879     | 930         | 7.3  | 959        | 982      |      | 881     | 948         | 7.3  | 052                       | 34.715 | 21 |
| 40          | 1       |             |      |            |          |      |         |             |      |                           |        |    |
|             | .02 908 | 8.46 366    | 7.2  | .99 958    | 9.99 982 | .02  | .02 910 | 8.46 385    | 7.2  | $1.53\ 615$               | 34.368 | 20 |
| 41          | 938     | 799         | 7.1  | 957        | 981      | .00  | 939     | 817         | 7.1  | 183                       | .027   | 19 |
| 12          | 967     | 8.47 226    |      | 956        | 981      |      | 968     | 8.47 245    |      | 1.52755                   | 33.694 | 18 |
| 13          | 996     | 650         | 7.0  | 955        | 981      | .02  | 997     | 669         | 7.0  | 331                       | .366   | 17 |
| 14          | .03 025 | $8.48\ 069$ | 6.9  | 954        | . 980    | .00  | .03 026 | $8.48\ 089$ | 6.9  | 1.51911                   | .045   | 16 |
| 15          | .03 054 | 485         |      | 953        | 980      | .02  | 055     | 505         |      | 495                       | 32.730 | 15 |
| 16          | 083     | 896         | 6.8  | 952        | 979      | .00  | 084     | 917         | 6.8  | 083                       | .421   | 14 |
| £7          | 112     | 8.49 304    | 6.7  | 952        | 979      | .00  | 114     | 8.49 325    | 6.7  | $1.50\ 675$               |        | 13 |
| 18          | 141     | 708         | 0.1  | 951        | 979      | .02  | 143     | 729         | 0.1  | 271                       | .118   | 12 |
| 19          | 170     | 8.50 108    | 6.6  | 951<br>950 | 978      |      |         |             | 0.0  | $\frac{271}{1.49870}$     | 31.821 |    |
|             |         |             |      | *          |          | .00  | 172     | 8.50 130    | 6.6  |                           | .528   | 11 |
| 50          | .03 199 | $8.50\ 504$ | 6.6  | .99 949    | 9.99978  | .02  | .03 201 | $8.50\ 527$ | 6.6  | 1.49473                   | 31,242 | 10 |
| 51          | 228     | 897         | 6.5  | 948        | 977      | .00  | 230     | 920         | 6.5  | 080                       | 30,960 | 9  |
| 52          | 257     | $8.51\ 287$ | 6.4  | 947        | 977      |      | 259     | $8.51\ 310$ | 6.4  | 1.48690                   | .683   | 8  |
| 53          | 286     | 673         |      | 946        | 977      | .02  | 288     | 696         |      | 304                       | .412   | 7  |
| 64          | 316     | $8.52\ 055$ | 6.3  | 945        | 976      | .00  | 317     | 8.52 079    | 6.3  | 1.47 921                  | .145   | 6  |
| 55          | 345     |             |      |            |          |      |         |             | -    |                           |        |    |
| 56          | 1       | 434         | é o  | 944        | 976      | .02  | 346     | 459         | 0.0  | 541                       | 29.882 | 5  |
|             | 374     | 810         | 6.2  | 943        | 975      | .00  | 376     | 835         | 6.2  | 165                       | .624   | 4  |
| 57          | 403     | 8.53 183    |      | 942        | 975      | .02  | 405     | 8.53 208    |      | 1.46 792                  | .371   | 3  |
| 8           | 432     | 552         | 6.1  | 941        | 974      | .00  | 434     | 578         | 6.1  | 422                       | .122   | 2  |
| 59          | 461     | 919         |      | 940        | 974      |      | 463     | 945         |      | 055                       | 28.877 | 1  |
| 30          | .03 490 | 8.54 282    |      | .99 939    | 9.99 974 |      | .03 492 | 8:54 308    |      | 1.45 692                  | 28.636 | 0  |
| 1°          | Nat.    | Log.        | Dif. | Nat.       | Log.     | Dif. | Nat.    | Log.        | Dif. | Log.                      | Nat.   | 88 |
|             |         |             |      |            |          |      |         |             |      |                           |        |    |

| $2^{\circ}$     |            | Sines.           |      |            | Cosines.      |             | TAN         | GENTS.   |      | COTAN                                     | GENTS.                | 177      |
|-----------------|------------|------------------|------|------------|---------------|-------------|-------------|--|------|---|-----------------------|----------|
| 4               | Nat.       | Log.             | Dif. | Nat.       | Log.          | Dif.        | Nat.        | Log.   | Dif. | · Log.                                    | Nat.                  | 1111     |
| 0'              | .03 490    | 8.54 282         | 6.0  | .99 939    | 0.00.071      | 00          | .08 492     | 0 5 1 200  | C 0  | 1.45.000                                  | 00.000                | CO       |
| 1               | 519        | 642              | 0.0  | 938        | 9.99974 $973$ | .02         | 521         | 8.54 308<br>669  | 6.0  | 1.45 692 $331$                            | 28,636 .              | 60<br>59 |
| 2               | 548        | 999              | 5.9  | 937        | 973           | .02         | 550         | $8.55\ 027$  | 5.9  | 1.44973                                   | .399<br>.166          | 58       |
| 3               | 577        | 8.55 354         | 0.0  | 936        | 972           | .00         | 579         | 382  | 0.0  | 618                                       | 27.937                | 57       |
| 4 .             | 606        | 705              | 5.8  | 935        | 972           | .02         | 609         | 734  | 5.8  | 266                                       | .712                  | 56       |
|                 |            |                  |      |            |               |             |             |  | 0.0  |   |                       |          |
| 5<br>6          | 635        | $8.56054 \\ 400$ | 5.7  | 984<br>933 | 971<br>971    | .00         | 638         | 8.56 083   |      | 1.43 917                                  | .490                  | 55       |
| 7               | 664<br>693 | 743              | 5. ( | 933        | 970           | .02         | 667<br>696  | $\frac{429}{773}$  | 5.7  | $\begin{array}{c} 571 \\ 227 \end{array}$ | .271                  | 54       |
| 8               | 723        | 8.57 084         | 5.6  | 931        | 970           | .02         | 725         | 8.57 114   | 5.6  | 1.42886                                   | .057                  | 52       |
| 9               | 752        | 421              | 5,0  | 930        | 969           | .02         | 754         | 452  | 5.0  | 548                                       | 26.845 $.637$         | 51       |
|                 | ł          |                  |      | 1          |               |             | 1           |  |      |   |                       | 1        |
| 10              | .03 781    | 8.57 757         | 5.5  | .99 929    | 9.99 969      | .02         | .03 783     | 8.57 788   | 5.6  | $1.42\ 212$                               | 26.432                | 50       |
| 11              | 810        | 8.58 089         |      | 927        | 968           | .00         | 812         | 8.58 121   | 5.5  | 1.41 879                                  | .230                  | 49       |
| 12              | 839        | 419              |      | 926        | 968           | .02         | 842         | 451  |      | 549                                       | .031                  | 48       |
| 13              | 868        | 747              | 5.4  | 925        | 967           | .00         | 871         | 779  | 5.4  | 221                                       | 25.835                | 47       |
| 14              | 597        | 8.59 072         |      | 924        | 967           |             | 900         | $8.59\ 105$  |      | 1.40895                                   | .642                  | 46       |
| 15              | 926        | 395              | 5.3  | 923        | 967           | .02         | 929         | 428  |      | 572                                       | .452                  | 45       |
| 16              | 955        | 715              |      | 922        | 966           | .00         | 958         | 749  | 5.8  | 251                                       | .264                  | 44       |
| 17              | 984        | 8.60033          |      | 921        | 966           | .02         | 987         | $8.60\ 068$  |      | 1.39932                                   | .080                  | 43       |
| 18              | .04 013    | 349              | 5.2  | 919        | 965           |             | .04 016     | 384  | 5.2  | 616                                       | 24.898                | 42       |
| 19              | 042        | 662              |      | 918        | 964           | .00         | 046         | 698  |      | 302                                       | .719                  | 41       |
| 20              | .04 071    | 8.60 973         | 5.2  | .99 917    | 9.99964       | .02         | .04 075     | 8.61 009   | 5.2  | 1.38 991.                                 | 24,542                | 40       |
| 21              | 100        | $8.61\ 282$      | 5.1  | 916        | 963           | .00         | 104         | 319  | 5.1  | 681                                       | .368                  | 39       |
| 22              | 129        | 589              |      | 915        | 963           | .02         | 133         | 626  |      | 374                                       | .196                  | 38       |
| 23              | 159        | 894              | 5.0  | 913        | 962           | .00         | 162         | 931  |      | 069                                       | .026                  | 37       |
| 24              | 188        | $8.62\ 196$      |      | 912        | 962           | .02         | 191         | $8.62\ 234$  | 5.0  | 1.37766                                   | 23.859                | 36       |
| 25              | 217        | 497              |      | 911        | 961           | .00         | 220         | 535  |      | 465                                       | .695                  | 35       |
| 26              | 246        | 795              | 4.9  | 910        | 961           | .02         | 250         | 834  |      | 166                                       | .532                  | 34       |
| 27              | 275        | 8.63 091         |      | 909        | 960           | .00         | 279         | 8.63 131   | 4.9  | 1.36 869                                  | .372                  | 33       |
| 28              | 304        | 385              |      | 907        | 960           | .02         | 308         | 426  |      | 574                                       | .214                  | 32       |
| 29              | 333        | 678              | 4.8  | 906        | 959           | .00         | 337         | 718  |      | 282                                       | .058                  | 31       |
| 30              | .04 362    | 8.63 968         | 4.8  | .99 905    | 9.99 959      |             | .04 366     | 8.64 009   | 4.0  | 1.35 991                                  | 22,904                | 30       |
| 31              | 391        | 8.64 256         | 4.0  | 904        | 958           | .02         | 395         | 298  | 4.8  | 702                                       | $\frac{22.904}{.752}$ | 29       |
| $\frac{31}{32}$ | 420        | 543              | 4.7  | 904        | 958           | .00         | 424         | 585  |      | 415                                       | .602                  | 28       |
| 33              | 449        | 827              | 4.1  | 902        | 957           | .02         | 454         | 870  | 4.7  | 130                                       | .454                  | 27       |
| 34              | 478        | 8.65 110         |      | 900        | 956           | .00         | 483         | 8.65 154   | 4.4  | 1.34 846                                  | .308                  | 26       |
|                 |            |                  |      | ĺ          |               |             |             |  |      |   |                       | 1        |
| 35              | 507        | 391              |      | 898        | 956           | .02         | 512         | 435  |      | 565                                       | .164                  | 25       |
| 36              | 536        | 670              | 4.6  | 897        | 955           | .00         | 541         | 715  | 4.6  | 285                                       | .022                  | 24       |
| 37              | 565        | 947              |      | 896        | 955           | .02         | 570         | 993  |      | 007                                       | 21.881                | 23       |
| 38              | 594        | 8.66 223         |      | 894        | 954           | .00         | 599         | 8.66 269   |      | 1.33 731                                  | .743                  | 22       |
| 39              | 623        | 497              | 4.5  | 893        | 954           | .02         | 628         | 543  |      | 457                                       | .606                  | 21       |
| 40              | .04 653    | 8.66769          | 4.5  | .99 892    | 9.99953       | .02         | .04 658     | 8.66816  | 4.5  | $1.33\ 184$                               | 21.470                | 20       |
| 41              | 652        | 8.67 039         |      | 890        | 952           | .00         | 687         | 8.67 087   |      | 1.32913                                   | .337                  | 19       |
| 42              | 711        | 308              |      | 889        | 952           | .02         | 716         | 356  |      | 644                                       | .205                  | 18       |
| 43              | 740        | 575              | 4.4  | 888        | 951           | .00         | 745         | 624  | 4.4  | 376                                       | .075                  | 17       |
| 44              | 769        | 841              |      | 886        | 951           | .02         | 774         | 890  |      | 110                                       | 20.946                | 16       |
| 45              | 795        | 8.68 104         |      | 885        | 950           |             | 803         | $8.68\ 154$  |      | 1.31 846                                  | .819                  | 15       |
| 46              | 527        | 367              | 4.3  | 883        | 949           | .00         | 833         | 417  |      | 583                                       | .693                  | 14       |
| 47              | 856        | 627              |      | 882        | 949           | .02         | 862         | 678  | 4.3  | 322                                       | .569                  | 13       |
| 48              | 855        | 886              |      | 881        | 948           | .00         | 891         | 938  |      | 062                                       | .446                  | 12       |
| 49              | 914        | $8.69\ 144$      |      | 879        | 948           | .02         | 920         | $8.69\ 196$  |      | 1.30804                                   | .325                  | 11       |
| 50              | .04 943    | 8.69 400         | 4.2  | .99 578    | 9.99 947      | .02         | .04 949     | 8.69 453   | 4.3  | 1.30 547                                  | 20.206                | 10       |
| 51              | 972        | 654              | ×    | 876        | 946           | .02         | 978         | 708  | 4.2  | 292                                       | .087                  | 9        |
| 52              | .05 001    | 907              |      | 875        | 946           | .02         | .05 007     | 962  |      | 038                                       | 19.970                | 8        |
| 53              | 030        | 8.70 159         |      | 873        | 945           |             | 037         | 8.70 214   |      | 1.29786                                   | .855                  | 7        |
| 54              | 059        | 409              |      | 572        | 944           | .00         | 066         | 465  |      | 535                                       | .740                  | 6        |
|                 |            |                  | 4.1  |            |               |             | 1           |  |      |   |                       | 5        |
| 55<br>50        | 055        | 658              | 4.1  | 870        | 944           | .02         | 095         | 714  | 4.1  | 286                                       | .627                  | 1        |
| 56<br>57        | 117        | 905              |      | 569        | 943           | 40          | 124         | 962  |      | 038                                       | .516                  | 4        |
| 57              | 146        | 8.71 151         |      | 567        | 942           | .00         | 153         | 8.71 208   |      | 1.28 792                                  | .405                  | 3 2      |
| 58<br>50        | 175        | 395              | 10   | ×66        | 942           | <b>9.02</b> | 182         | 453  |      | 547                                       | .296                  |          |
| 59              | 205        | 638              | 4.0  | -61        | 941           |             | 212         | 697  |      | 303                                       | .188                  | 1        |
| 60              | .05 284    | 8.71 880         |      | .99 563    | 9.99 940      |             | .05 241     | 8.71 940   |      | 1.28 060                                  | 19.081                | 0        |
| 92°             | Nat.       | Log.             | Dif. | Nat.       | Log.          | Dif.        | Nat.        | Log.   | Dif. | Log.                                      | Nat.                  | 87       |
|                 |            |                  |      |            |               |             | 1 200 00000 | The same of the sa |      |   |                       |          |

| $3^{\circ}$ |            | SINES.      |        |            | Cosines.      |       | TAN     | GENTS.                                    |      | COTAN       | GENTS. | 17 |
|-------------|------------|-------------|--------|------------|---------------|-------|---------|---|------|-------------|--------|----|
|             | Nat.       | Log.        | · Dif. | Nat.       | Log.          | Dif.  | Nat.    | Log.                                      | Dif. | Log.        | Nat.   | 1. |
| 0'          | .05 234    | 8.71 880    | 4.0    | .99 863    | 9.99 940      | .00   | .05 241 | 8.71 940                                  | 4.0  | 1.28 060    | 19.081 | 6  |
| 1           | . 263      | 8.72 120    |        | 861        | 940           | .02   | 270     | $8.72\ 181$                               |      | 1.27 819    | 18.976 | 5  |
| 2           | 292        | 359         |        | 860        | 939           |       | 299     | 420                                       |      | 580         | .871   | 5  |
| 3           | 321        | 597         |        | 858        | . 938         | .00   | 328     | 659                                       |      | 341         | .768   | 5  |
| 4           | 350        | 834         | . 3.9  | 857        | 938           | .02   | 357     | 896                                       | 3.9  | 104         | .666   | 5  |
| 5           | 379        | 8.73 069    |        | 855        | 937           |       | 357     | 8.73 132                                  | •    | 1.26 868    | .564   | 5  |
| 6           | 408        | 303         |        | 854        | 936           | .00   | 416     | 366                                       |      | 634         | .464   | 5  |
| 7           | 437        | 535         |        | 852        | 936           | .02   | 445     | 600                                       |      | 400         | .366   | 5  |
| 8           | 466        | 767         | 3.8    | 851        | 935           |       | 474     | 832                                       |      | 168         | .268   | 5  |
| 9           | 495        | 997         |        | 849        | 934           | .00   | 503     | 8.74 063                                  | 3.8  | 1.25937     | .171   | 5  |
| 10          | .05 524    | 8.74 226    | 3,8    | .99 847    |               |       |         |   |      |             |        |    |
| 11          | 558        |             |        | 846        | 9.99934 $933$ | .02   | .05 533 | 8.74 292                                  | 3.8  | 1.25 708    | 18.075 | 5  |
| 12          | 582        | 680         |        | 844        | 932           | 00    | 562     | 521                                       |      | 479         | 17.980 | 4  |
| 13          | 611        | 906         | 3.7    | 842        | 932           | .00   | 591     | 748                                       |      | 252         | .886   | 4  |
| 14          | 640        | 8.75 130    | 0.1    | 841        |               | .02   | 620     | 974                                       | ٠.   | 026         | .793   | 4  |
|             |            |             |        | 1          |               |       | 649     | $8.75\ 199$                               | 3.7  | 1.24 801    | .702   | 4  |
| 15          | 669        | 353         |        | 839        | 930           |       | 678     | 423                                       |      | 577         | .611   | 4  |
| 16          | 698        | 575         |        | 838        | 929           | .00   | 708     | 645                                       |      | 355         | .521   | 4  |
| 17          | 727        | 795         |        | 836        | 929           | .02   | 737     | 867                                       |      | 133         | .431   | 4  |
| 18          | 756        | 8.76 015    |        | 834        | 928           |       | 766     | 8.76087                                   |      | 1.23913     | .343   | 4  |
| 19          | 785        | 234         | 3.6    | 833        | 927           |       | 795     | 306                                       |      | 694         | .256   | 4  |
| 20          | .05 814    | 8.76 451    | 3.6    | .99 831    | 9.99 926      | .00   | .05 824 | 8.76 525                                  | 3.6  | 1.23 475    | 17.169 | 4  |
| 21          | 844        | 667         | 2.0    | 829        | 926           | .02   | 854     | 742                                       | 0.0  | 258         | .084   | 3  |
| 22          | 873        | 883         |        | 827        | 925           |       | 883     | 958                                       |      | 042         | 16.999 | 3  |
| 23          | 902        | 8.77 097    |        | 826        | 924           |       | 912     | 8.77 173                                  |      | 1.22827     | .915   | 3  |
| 24          | 931        | 310         | 3.5    | 824        | 923           | .00   | 941     | 387                                       |      | 613         | .832   | 3  |
|             |            |             | 0.0    | 1          |               |       |         |   |      |             |        |    |
| 25          | 960        | 522         |        | 822        | 923           | .02   | 970     | 600                                       | 3.5  | 400         | .750   | 3  |
| 26          | 989        | 733         |        | 821        | 922           |       | .05 999 | 811                                       |      | 189         | .668   | 3. |
| 27          | .06 018    | 943         |        | 819        | 921           |       | .06 029 | 8.78022                                   |      | 1.21978     | .587   | 3: |
| 28          | 047        | $8.78\ 152$ |        | 817        | 920           | .00   | 058     | 232                                       |      | 768         | .507   | 3: |
| 29          | 076        | 360         |        | 815        | 920           | .02   | 087     | 441                                       |      | <b>559</b>  | .428   | 3  |
| 30          | .06 105    | 8.78 568    | 3.4    | .99 813    | 9.99919       | .02   | .06 116 | 8.78 649                                  | 3.4  | 1.21 351    | 16.350 | 3  |
| 31          | 134        | 774         |        | 812        | 918           |       | 145     | 855                                       |      | 145         | .272   | 2  |
| 32          | 163        | 979         |        | 810        | 917           | .00   | 175     | 8.79 061                                  |      | 1.20939     | .195   | 2  |
| 33          | 192        | 8.79 183    |        | 808        | 917           | .02   | 204     | 266                                       |      | 734         | .119   | 2  |
| 34          | 221        | 386         |        | 806        | 916           |       | 233     | 470                                       |      | 530         | .043   | 20 |
| 35          | 250        | 588         |        | 804        | 915           |       | 262     |   |      |             |        | 2  |
| 36          | 279        | 789         |        | 803        | 914           |       | 202     | 673<br>875                                |      | 327         | 15.969 |    |
| 37          | 308        | 990         | 3,3    | 801        | 914           | 00    | . 321   |   |      | 125         | .895   | 24 |
| 38          | 337        | 8.80 189    | 0.0    | l .        | 913           | .00   | 350     | 8.80 076                                  | 0.0  | 1.19 924    | .821   | 23 |
| 39          | 366        | 388         |        | 799<br>797 | 912           | .02   | 379     | $\begin{array}{c} 277 \\ 476 \end{array}$ | 3,3  | 723         | .748   | 25 |
|             |            |             |        |            |               |       |         |   |      | $\bf 524$   | .676   | 2  |
| 40          | $.06\ 395$ | $8.80\ 585$ | 3.3    | .99 795    | $9.99\ 911$   | .02   | .06 408 | $8.80\ 674$                               | 3.3  | $1.19\ 326$ | 15.605 | 20 |
| 41          | 424        | 782         |        | 793        | 910           |       | 438     | 872                                       |      | 128         | .534   | 19 |
| 12          | 453        | 978         |        | 792        | 909           | .00   | 467     | 8.81 068                                  |      | 1.18932     | .464   | 18 |
| 13          | 482        | 8.81 173    | 3.2    | 790        | 909           | .02   | 496     | 264                                       |      | 73 <b>6</b> | .394   | 1' |
| 14          | 511        | 367         |        | 788        | 908           |       | 525     | 459                                       | 3.2  | 541         | .325   | 10 |
| 15          | 540        | 560         |        | 786        | 907           | -     | 554     | 653                                       |      | 347         | .257   | 16 |
| 16          | 569        | 752         |        | 784        | 906           |       | 584     | 846                                       |      | 154         | .189   | 14 |
| 17          | 598        | 944         |        | 782        | 905           |       | 613     | 8.82 038                                  |      | 1.17 962    | .122   | 13 |
| 18          | 627        | 8.82 134    |        | 780        | 904           | .00   | 642     | 230                                       |      | 770         | .056   | 1: |
| 19          | 656        | 324         |        | 778        | 904           | .02   | 671     | 420                                       |      | 580         | 14.990 | 11 |
|             |            |             |        |            |               |       |         |   |      |             |        |    |
| 50          | .06 685    | 8.82 513    | 3.1    | .99 776    | 9.99 903      | .02   | .06 700 | 8.82 610                                  | 3.2  | 1.17 390    | 14.924 | 10 |
| 51          | 714        | 701         |        | 774        | 902           |       | 730     | 799                                       | 3.1  | 201         | .860   | 9  |
| 52          | 743        | 888         |        | 772        | 901           |       | 759     | 987                                       |      | 013         | .795   | 8  |
| 53          | 773        | 8.83 075    |        | 770        | 900           |       | . 788   | 8.83 175                                  |      | 1.16 825    | .732   | 7  |
| 64          | 802        | 261         |        | 768        | 899           |       | 817     | 361                                       |      | 639         | .669   | •  |
| 55          | _831       | 446         |        | 766        | 398           | .00   | 847     | 547                                       |      | 453         | .606   | 5  |
| 66          | 860        | 630         |        | 764        | 898           | .02 · | 876     | 732                                       |      | 268         | .544   | 4  |
| 57          | 889        | 813         |        | 762        | 897           |       | 905     | 916                                       |      | 084         | .482   | 3  |
| 58          | 918        | 996         | 3.0    | 760        | 896           |       | 934     | 8.84 100                                  | 3.0  | 1.15900     | .421   | 2  |
| 59          | 947        | $8.84\ 177$ |        | 758        | 895           |       | 963     | 282                                       |      | 718         | .361   | 1  |
| 30          | .06 976    | 8.84 358    |        | .99 756    | 9.99 894      |       | .06 993 | 8.84 464                                  |      | 1.15 536    | 14,301 | 0  |
| 1           | N-4        | Log.        | Dif.   | Nat.       | Log.          | Dif.  | Nat.    | Log.                                      | Dif. | Log.        | Nat.   | 86 |
| 3°          | Nat.       | ZJOE.       |        |            |               |       |         |   |      |             |        |    |

| $4^{\circ}$    |                | SINES.                                    |      |                | Cosines.      |      | TAN     | GENTS.            |      | . COTAN          | SENTS.        | 17  |
|----------------|----------------|---|------|----------------|---------------|------|---------|-------------------|------|------------------|---------------|-----|
|                | Nat.           | Log.                                      | Dif. | Nat.           | Log.          | Dif. | Nat.    | Log.              | Dif. | Log.             | Nat.          | 1.  |
| 0'             | .06 976        | 8.84 358                                  | 3.0  | .99 756        | 9.99 894      | .02  | .06 998 | 8.84 464          | 3,0  | 1.15 536         | 14.301        | 6   |
| 1              | .07 005        | 539                                       |      | 754            | 893           |      | .07 022 | 646               |      | 354              | .241          | 5   |
| $\overline{2}$ | 034            | 718                                       |      | 752            | 892           |      | 051     | 826               |      | 174              | .182          | 5   |
| 3              | 063            | 897                                       |      | 750            | 891           | .00  | 080     | 8.85 006          |      | 1.14 994         | .124          | 5   |
| 4              | 092            | 8.85 075                                  |      | 748            | 891           | .02  | 110     | 185               |      | 815              | .065          | 5   |
| 5              | 121            | 252                                       |      | 746            | 890           |      | 139     | 363               |      | 637              | .008          | 5   |
| 6              | 150            | 429                                       | 2.9  | 744            | 889           |      | 168     | 540               |      | 460              | 13.951        | 5   |
| 7              | 179            | 605                                       |      | 742            | 888           |      | 197     | 717               | 2.9  | 283              | .894          | 5   |
| 8              | 208            | 780                                       |      | 740            | 887           |      | 227     | 893               |      | 107              | S3S           | 5   |
| 9              | 237            | 955                                       |      | 738            | 886           |      | 256     | 8.86 069          |      | 1.13 931         | .782          | 5   |
| 10             | .07 266        | 8.86 128                                  | 2.9  | .99 736        | 9.99 885      | .02  | .07 285 | 8.86 243          | 2.9  | 1.13 757         | 18,727        | 5   |
| 11             | 295            | 301                                       | 2.5  | 734            | 884           | .02  | 314     | 417               | 2.5  | 583              | .672          | 4   |
| 12             | 324            | 474                                       |      | 731            | 883           |      | 344     | 591               |      | 409              | .617          | 4   |
| 13             | 353            | 645                                       |      | 729            | 882           |      | 373     | 763               |      | 237              | .563          | 4   |
| 14             | 382            | 816                                       |      | 727            | 881           |      | 402     | 935               |      | 065              | .510          | 4   |
|                |                |   |      | 1              |               |      |         |                   |      |                  |               | 1   |
| 15             | 411            | 987                                       | 2.8  | 725            | 880           |      | 431     | 8.87 106          |      | 1.12 894         | .457          | 4   |
| 16             | 440            | 8.87 156                                  |      | 723            | 879           | .00  | 461     | 277               | 2.8  | 723              | .404          | 4   |
| 17             | 469            | 325                                       |      | 721            | 879           | .02  | 490     | 447               |      | 553              | .352          | 4   |
| 18<br>19       | 498            | 494                                       |      | 719            | 878<br>877    |      | 519     | 616               |      | 384              | .300          | 4   |
|                | 527            | 661                                       |      | 716            |               |      | 548     | 785               |      | 215              | .248          | 1   |
| 20             | .07 556        | $8.87\ 829$                               | 2.8  | .99 714        | 9.99876       | .02  | .07 578 | 8.87 953          | 2.8  | 1.12047          | 13.197        | 4   |
| 21             | 585            | 995                                       |      | 712            | 875           |      | 607     | 8.88 120          |      | 1.11 880         | .146          | 3   |
| 22             | 614            | 8.88 161                                  |      | 710            | 874           |      | 636     | 287               |      | 713              | .096          | 3   |
| 23             | 643            | 326                                       | 2.7  | 708            | 873           |      | 665     | 453               |      | 547              | .046          | 3   |
| 24             | 672            | 490                                       |      | 705            | 872           |      | 695     | 618               |      | 382              | 12.996        | 3   |
| 25             | 701            | 654                                       |      | 703            | 871           |      | 724     | 783               |      | 217              | .947          | 3   |
| 26             | 730            | 817                                       |      | 701            | 870           |      | 753     | 948               | 2.7  | 052              | .898          | 3   |
| 27             | 759            | 980                                       |      | 699            | 869           |      | 782     | 8.89 111          |      | 1.10889          | .850          | 3   |
| 28             | 788            | $8.89\ 142$                               |      | 696            | 868           |      | 812     | 274               |      | 726              | .801          | . 3 |
| 29             | 817            | 304                                       |      | 694            | 867           |      | 841     | 437               |      | 563              | .754          | 3   |
| 30             | .07 846        | 8.89 464                                  | 2.7  | .99 692        | 9.99 866      | .02  | .07 870 | 8.89 598          | 2.7  | $1.10\ 402$      | 12.706        | 3   |
| 31             | 875            | 625                                       |      | 689            | 865           |      | 899     | 760               |      | 240              | .659          | 2   |
| 32             | 904            | 784                                       |      | 687            | 864           |      | 929     | 920               |      | 080              | .612          | 2   |
| 33             | 933            | 943                                       |      | 685            | 863           |      | 958     | 8.90 080          |      | 1.09 920         | .566          | 2   |
| 34             | 962            | $8.90\ 102$                               | 2.6  | 683            | 862           |      | 987     | 240               |      | 760              | .520          | 2   |
| 35             | 991            | 260                                       |      | 680            | 861           |      | .08 017 | 399               | 2.6  | 601              | .474          | 2   |
| 36             | .08 020        | 417                                       |      | 678            | 860           |      | 046     | 557               | 2.0  | 443              | .429          | 2   |
| 37             | 049            | 574                                       |      | 676            | 859           |      | 075     | 715               |      | 285              | .384          | 2   |
| 38             | 078            | 730                                       |      | 673            | 858           |      | 104     | 872               |      | 128              | .339          | 2   |
| 39             | 107            | 885                                       |      | 671            | 857           |      | 184     | 8.91 029          |      | 1.08 971         | .295          | 2   |
| 40             |                |   | 2.6  |                |               | 00   |         |                   | 0.0  |                  |               | 2   |
| 41             | .08 136<br>165 | $8.91\ 040$ $195$                         | 2.0  | .99 668<br>666 | 9.99856 $855$ | .02  | .08 163 | $8.91\ 185$ $340$ | 2.6  | $1.08815 \\ 660$ | 12.251 $.207$ | 1   |
| 42             | 194            | 349                                       |      | 664            | 8 <b>54</b>   |      | 221     | 495               |      | 505              | .163          | 1   |
| 43             | 223            | $\begin{array}{c} 549 \\ 502 \end{array}$ |      | 661            | 853           |      | 251     | 650               |      | 350              | .120          | 1   |
| 44             | 252            | 655                                       | 2.5  | 659            | 852           |      | 280     | 803               |      | 197              | .077          | 1   |
|                |                |   | 0    |                |               |      | 1       |                   |      |                  |               | 1   |
| 45             | 251            | 807                                       |      | 657            | 851           |      | 309     | 957               |      | 043              | .085          | 1   |
| 46             | 310            | 959                                       |      | 654            | 850           | .03  | 339     | 8.92 110          | 2.5  | 1.07 890         | 11.992        | 1   |
| 47             | 339            | 8.92 110                                  |      | 652            | 848           | .02  | 368     | 262               |      | 738              | .950          | 1   |
| 48             | 368            | 261                                       |      | 649            | 847           |      | 397     | 414               |      | 586              | .909          | 1   |
| 49             | 397            | 411                                       |      | 647            | 846           |      | 427     | 565               |      | 435              | .867          | 1   |
| 50             | .05 426        | $8.92\ 561$                               | 2.5  | .99 644        | 9.99845       | .02  | .08 456 | $8.92\ 716$       | 2.5  | $1.07\ 284$      | 11.826        | 1   |
| 51             | 455            | 710                                       |      | 642            | 844           |      | 485     | 866               |      | 134              | .785          |     |
| 52             | 4%4            | 859                                       |      | 639            | 843           |      | 514     | 8.93 016          |      | 1.06984          | .745          |     |
| 53             | 513            | 8.93 007                                  |      | 637            | $\bf 842$     |      | 544     | 165               |      | 835              | .705          |     |
| 54             | 542            | 154                                       |      | 635            | 841           |      | 573     | 313               |      | 687              | .664          |     |
| 55             | 571            | 301                                       |      | 632            | 840           |      | 602     | 462               |      | 538              | .625          |     |
| 56             | 600            | 448                                       | 2.4  | 630            | 839           |      | 632     | 609               |      | 391              | .585          |     |
| 57             | 629            | 594                                       |      | 627            | 838           |      | 661     | 756               |      | 244              | .546          |     |
| 58             | 658            | 740                                       |      | 625            | 837           |      | 690     | 903               | 2.4  | 097              | .507          |     |
| 59             | 687            | 885                                       |      | 622            | 836           | .03  | 720     | $8.94\ 049$       |      | 1.05951          | .468          |     |
| 60             | .08 716        | 8.94 030                                  |      | .99 619        | 9.99 834      |      | .08 749 | 8.94 195          |      | 1.05 805         | 11.430        |     |
| )4°            | Nat.           | Log.                                      | Dif. | Nat.           | Log.          | Dif. | Nat.    | Log.              | Dif. | Log.             | Nat.          | 8   |
|                | 1              |   |      |                |               |      |         |                   |      |                  |               | . 0 |

| 5°         |                | SINES.          |      |         | Cosines. |      |            | GENTS.                                    |      | COTAN    | GENTS.            | 174 |
|------------|----------------|-----------------|------|---------|----------|------|------------|---|------|----------|-------------------|-----|
|            | Nat.           | Log.            | Dif. | Nat.    | Log.     | Dif. | Nat.       | Log.                                      | Dif. | Log.     | Nat.              | 1.  |
| 0'         | .08 716        | 8.94 030        | 2.4  | .99 619 | 9.99 834 | .02  | .08 749    | 8.94 195                                  | 2.4  | 1.05 805 | 11.430            | 60  |
| 1          | 745            | 174             |      | 617     | 833      |      | 778        | 340                                       |      | 660      | .392              | 59  |
| 2          | 774            | 317             |      | 614     | 832      |      | 807        | 485                                       |      | 515      | .354              | 58  |
| 3          | 803            | 461             |      | 612     | 831      |      | 837        | 630                                       |      | 370      | .316              | 57  |
| 4          | 831            | 603             |      | 609     | 830      |      | 866        | 773                                       |      | 227      | .279              | 56  |
| 5          | 860            | 746             |      | 607     | 829      |      | 895        | 917                                       |      | 083      | .242              | 58  |
| 6          | 889            | 887             |      | 604     | 828      |      | 925        | 8.95 060                                  |      | 1.04 940 | .205              | 54  |
| 7          | 918            | 8.95 029        |      | 602     | 827      | .03  | 954        | 202                                       |      | 798      | .168              | 53  |
| 8          | 947            | 170             | 2.3  | 599     | 825      | .02  | 983        | 344                                       |      | 656      | .132              | 55  |
| 9          | 976            | 310             |      | 596     | 824      |      | .09 013    | 486                                       |      | 514      | .095              | 5   |
| 10         | .09 005        | 8.95 450        | 2.3  | .99 594 | 9.99 823 | .02  | .09 042    | 8.95 627                                  | 2.3  | 1.04 373 | 11,059            | 50  |
| 11         | 034            | 589             |      | 591     | 822      |      | 071        | 767                                       | 2.4  | 233      | .024              | 49  |
| 12         | 063            | 728             |      | 588     | 821      |      | 101        | 908                                       | 2.3  | 092      | 10.988            | 48  |
| 13         | 092            | 867             |      | 586     | 820      |      | 130        | 8.96 047                                  | 2.0  | 1.03 953 |                   | 47  |
| 14         | 121            | 8.96 005        |      | 583     | 819      | .03  | 159        | 187                                       |      | 813      | .953<br>.918      | 46  |
| 15         | 150            | 143             |      | 580     | 817      | .02  | 189        | 325                                       |      |          |                   | 1   |
| 16         | 179            | 280             |      | 578     | 816      | .02  | 218        |   |      | 675      | .883              | 45  |
| 17         | 208            | 417             |      | 575     | 815      |      | 218        | $\begin{array}{c} 464 \\ 602 \end{array}$ |      | 536      | .848              | 44  |
| 18         | 237            | 553             |      | 572     | 814      |      | 1          |   |      | 398      | .814              | 43  |
| 19         | 266            | 689             |      | 570     | 814      |      | 277<br>306 | 739<br>877                                |      | 261      | .780              | 4:  |
| 20         | .09 295        | 8.96 825        | 0.0  | f       |          |      | }          |   |      | 123      | .746              | 4   |
| 21         | .09 295<br>324 | 8.96 825<br>960 | 2.3  | .99 567 | 9.99 812 | .03  | .09 335    | 8.97 013                                  | 2.3  | 1.02 987 | 10.712            | 40  |
| 22         | 353<br>353     | 8.97 095        | 2.2  | 564     | 810      | .02  | 365        | 150                                       |      | 850      | .678              | 38  |
|            | 1              |                 | 2.2  | 562     | 809      |      | 394        | 285                                       |      | 715      | .645              | 38  |
| 23         | 382            | 229             |      | 559     | 808      |      | 423        | 421                                       |      | 579      | .612              | 3   |
| 24         | 411            | 363             |      | 556     | 807      |      | 453        | 556                                       |      | 444      | .579              | 36  |
| 25         | 440            | 496             |      | 553     | 806      | 03   | 482        | 691                                       | 2.2  | 309      | .546              | 35  |
| 26         | 469            | 629             |      | 551     | 804      | .02  | 511        | 825                                       |      | 175      | .514              | 34  |
| 27         | 498            | 762             |      | 548     | 803      |      | 541        | 959                                       |      | 041      | .481              | 33  |
| <b>2</b> 8 | 527            | 894             |      | 545     | 802      |      | 570        | $8.98\ 092$                               |      | 1.01 908 | .449              | 32  |
| 29         | 556            | 8.98 026        |      | 542     | 801      |      | 600        | $\boldsymbol{225}$                        |      | 775      | .417              | 31  |
| 30         | .09 585        | 8.98 157        | 2.2  | .99 540 | 9.99 800 | .03  | .09 629    | 8.98 358                                  | 2.2  | 1.01 642 | 10.385            | 30  |
| 31         | 614            | 288             |      | 537     | 798      | .02  | 658        | 490                                       |      | 510      | 354               | 29  |
| 32         | 642            | 419             |      | 534     | 797      | •    | 688        | 622                                       |      | 378      | .322              | 28  |
| 33         | 671            | <b>54</b> 9     |      | 531     | 796      |      | 717        | 753                                       |      | 247      | .291              | 27  |
| 34         | 700            | 679             |      | 528     | 795      | .03  | 746        | 884                                       |      | 116      | .260              | 26  |
| 35         | 729            | 808             |      | 526     | 793      | .02  | 776        | 8.99 015                                  |      | 1.00 985 | .229              | 25  |
| 36         | 758            | 937             |      | 523     | 792      |      | 805        | 145                                       |      | 855      | .199              | 24  |
| 37         | 787            | 8.99 066        | 2.1  | 520     | 791      |      | 834        | 275                                       |      | 725      | .168              | 23  |
| 38         | 816            | 194             |      | 517     | 790      | .03  | 864        | 405                                       |      | 595      | .138              | 22  |
| <b>3</b> 9 | 845            | 322             |      | 514     | 788      | .02  | 893        | 534                                       | 2.1  | 466      | .108              | 21  |
| 40         | .09 874        | 8.99 450        | 2.1  | .99 511 | 9.99 787 | .02  | .09 923    | 8.99 662                                  | 2.2  | 1.00 338 | 10.078            | 20  |
| 41         | 903            | 577             |      | 508     | 786      | .04  | 952        | 791                                       | 2.1  | 209      | .048              | 19  |
| 42         | 932            | 704             |      | 506     | 785      | .03  | 981        | 919                                       | 1    | 081      | .043              | 18  |
| 43         | 961            | 830             |      | 503     | 783      | .02  | .10 011    | $9.00\ 046$                               |      | 0.99954  | 9.9893            | 17  |
| 44         | 990            | 956             |      | 500     | 782      | .02  | 040        | 174                                       |      | 826      | 601               | 16  |
| 45         | .10 019        | 9.00 082        |      | 497     | 781      |      | 069        | 301                                       |      | 699      |                   | 15  |
| 46         | 048            | 207             |      | 494     | 780      | .03  | 099        | $\frac{301}{427}$                         |      | 573      | $\frac{310}{021}$ | 14  |
| 47         | 077            | 332             |      | 491     | 778      | .02  | 128        | 553                                       |      | 447      | 9.8734            | 13  |
| 48         | 106            | 456             |      | 488     | 777      | .04  | 158        | 679                                       |      | 321      | 9.8134<br>448     | 12  |
| 49         | 135            | 581             |      | 485     | 776      |      | 187        | 805                                       |      | 195      | 164               | 11  |
|            |                |                 | 0.4  | ŀ       |          | 00   |            |   | 0 1  |          |                   |     |
| 50         | .10 164        | 9.00 704        | 2.1  | .99 482 | 9.99775  | .03  | .10 216    | 9.00 930                                  | 2.1  | 0.99 070 | 9.7882            | 10  |
| 51         | 192            | 828             |      | 479     | 773      | .02  | 246        | 9.01 055                                  |      | 0.98 945 | 601               | 9   |
| 52         | 221            | 951             | 0.0  | 476     | 772      | 00   | 275        | 179                                       |      | 821      | 322               | 8   |
| 53<br>54   | 250            | 9.01 074        | 2.0  | 478     | 771      | .03  | 305        | 303                                       |      | 697      | 044               | 7   |
| 54         | 279            | 196             |      | 470     | 769      | .02  | 334        | 427                                       |      | 573      | 9.6768            | 6   |
| 55         | 308            | 318             |      | 467     | 768      |      | 363        | 550                                       |      | 450      | 493               | 5   |
| 56         | 337            | 440             |      | 464     | 767      | .03  | 393        | 673                                       |      | 327      | 220               | 4   |
| 57         | 366            | 561             |      | 461     | 765      | .02  | 422        | 796                                       | 2.0  | 204      | 9.5949            | 3   |
| 58         | 395            | 682             |      | 458     | 764      |      | 452        | 918                                       |      | 082      | 679               | 2   |
| 59         | 424            | 803             |      | 455     | 763      | .03  | 481        | $9.02\ 040$                               |      | 0.97 960 | 411               | 1   |
| 60         | .10 453        | 9.01 923        |      | .99 452 | 9.99 761 |      | .10 510    | 9.02 162                                  |      | 0.97 838 | 9.5144            | 0   |
| )5°        | Nat.           | Log.            | Dif. | Nat.    | Log.     | Dif. | Nat.       | Log.                                      | Dif. | Log.     | Nat.              | 84  |
| 10 -       |                |                 |      |         |          |      |            |   |      |          |                   |     |

| $6^{\circ}$     |            | SINES.                                    |      |            | Cosines.                                  |       | TANG       | GENTS.                                    |      | COTANG                                    | ENTS.         | 173  |
|-----------------|------------|---|------|------------|---|-------|------------|---|------|---|---------------|------|
| -               | Nat.       | Log.                                      | Dif. | Nat.       | Log.                                      | Dif.  | Nat.       | Log.                                      | Dif. | Log.                                      | Nat.          |      |
| 0′              | .10 453    | 9.01 923                                  | 2.0  | .99 452    | 9.99 761                                  | .02   | .10 510    | 9.02 162                                  | 2.0  | 0.97 838                                  | 9.5144        | 60   |
| 1               | 482        | 9.02 043                                  | 0    | 449        | 760                                       | • • • | 540        | 283                                       |      | 717                                       | 9.4878        | 59   |
| 2               | 511        | 163                                       |      | 446        | 759                                       | .03   | 569        | 404                                       |      | 596                                       | 614           | 58   |
| 3               | 540        | 283                                       |      | 443        | 757                                       | .02   | 599        | 525                                       |      | 475                                       | 352           | 57   |
| 4               | 569        | 402                                       |      | 440        | 756                                       |       | 628        | 645                                       |      | 355                                       | 090           | 56   |
| 5               |            | 520                                       |      | 437        | 755                                       | .03   | 657        | 766                                       |      | 234                                       | 9.3831        | 55   |
|                 | 597<br>626 | 639                                       |      | 434        | 753                                       | .02   | 687        | 885                                       |      | 115                                       | 572           | 54   |
| 6<br>7          | Į.         | 757                                       |      | 431        | 752                                       | .02   | 716        | 9.03 005                                  |      | 0.96 995                                  |               | 53   |
| 8               | 655        |   |      | 428        | 751                                       | .03   | 746        | 124                                       |      | 876                                       | 0,60          | 5    |
|                 | 684        | 874                                       |      | 1          | 749                                       |       | 775        | 242                                       |      | 758                                       | 9.2806        | 5    |
| 9               | 713        | 992                                       |      | 424        |   | .02   | 1          |   |      |   |               |      |
| 10              | .10 742    | 9.03 109                                  | 2.0  | .99 421    | 9.99 748                                  | .02   | .10 805    | 9.03 361                                  | 2.0  | 0.96 639                                  | 9.2553        | 50   |
| 11              | 771        | 226                                       | 1.9  | 418        | 747                                       | .03   | 834        | 479                                       |      | 521                                       | 302           | 49   |
| 12              | 800        | 342                                       |      | 415        | 745                                       | .02   | 863        | 597                                       |      | 403                                       | 052           |      |
| 13              | 829        | 458                                       |      | 412        | 744                                       | .03   | 893        | 714                                       | 4.0  | 286                                       | 9.1803        | 4'   |
| 14              | 858        | 574                                       |      | 409        | 742                                       | .02   | 922        | 832                                       | 1.9  | 168                                       | . 555         | 4    |
| 15              | 887        | 690                                       |      | 406        | 741                                       |       | 952        | 948                                       | 2.0  | 052                                       | 309           | 4    |
| 16              | 916        | 805                                       |      | 402        | 740                                       | .03   | 981        | $9.04\ 065$                               | 1.9  | 0.95 935                                  | 065           | 4.   |
| 17              | 945        | 920                                       |      | 399        | 738                                       | .02.  | .11 011    | 181                                       |      | 819                                       | 9.0821        | -43  |
| 18              | 973        | 9.04 034                                  |      | 396        | 737                                       |       | 040        | 297                                       |      | 703                                       | 579           | 4:   |
| 19              | .11 002    | 149                                       |      | 393        | 736                                       | .03   | 070        | 413                                       |      | 587                                       | 338           | 4    |
| 20              | .11 031    | $9.04\ 262$                               | 1.9  | .99 390    | 9.99 734                                  | .02   | .11 099    | $9.04\ 528$                               | 1.9  | 0.95 472                                  | 9.0098        | 4    |
| 21              | 060        | 376                                       |      | 386        | 733                                       | .03   | 128        | 643                                       |      | 357                                       | 8.9860        | 39   |
| 22              | 089        | 490                                       |      | 383        | 731                                       | .02   | 158        | 758                                       |      | 242                                       | 623           | 3    |
| 23              | 118        | 603                                       |      | 380        | 730                                       | .03   | 187        | 873                                       |      | 127                                       | 387           | 3'   |
| 24              | 147        | 715                                       |      | 377        | 728                                       | .02   | 217        | 987                                       |      | 013                                       | 152           | 30   |
| 25              | 176        | 828                                       |      | 374        | 727                                       |       | 246        | $9.05\ 101$                               |      | 0.94899                                   | 8.8919        | 3    |
| 26              | 205        | 940                                       |      | 370        | 726                                       | .03   | 276        | 214                                       |      | 786                                       | 686           | 3.   |
| 27              | 234        | $9.05 \ 052$                              |      | 367        | 724                                       | .02   | 305        | 328                                       |      | 672                                       | 455           | 3    |
| 28              | 263        | 164                                       |      | 364        | 723                                       | .03   | 335        | 441                                       |      | 559                                       | 225           | 3:   |
| 29              | 291        | 275                                       |      | 360        | 721                                       | .02   | 364        | 553                                       |      | 447                                       | 8.7996        | 3    |
| 30              | .11 320    | 9.05 386                                  | 1.9  | .99 357    | 9.99 720                                  | .03   | .11 394    | 9.05 666                                  | 1.9  | 0.94 334                                  | 8.7769        | 3    |
| 31              | 349        | 497                                       | 1.8  | 354        | 718                                       | .02   | 423        | 778                                       |      | 222                                       | 542           | 2    |
| 32              | 378        | 607                                       | 1.0  | 351        | 717                                       | .02   | 452        | 890                                       |      | 110                                       | 317           | 2    |
| 33              | 407        | 717                                       |      | 347        | 716                                       | .03   | 482        | 9.06 002                                  |      | 0.93 998                                  | 093           | 2    |
| 34              | 436        | 827                                       |      | 344        | 714                                       | .02   | 511        | 113                                       |      | 887                                       | 8.6870        | 2    |
|                 |            |   |      |            | 713                                       |       | 541        | 224                                       |      | 776                                       | 648           | 2    |
| 35              | 465        | 937                                       |      | 341        |   | .03   | 570        | 335                                       | 1.8  | 665                                       | 427           | 2    |
| 36              | 494        | 9.06 046                                  |      | 337        | 711                                       | .02   | 600        | $\frac{333}{445}$                         | 1.9  | 555                                       | 208           | 2    |
| 37              | 523        | 155                                       |      | 334        | 710<br>708                                | .03   | 629        | 556                                       | 1.8  | $\frac{333}{444}$                         | 8.5989        | 2    |
| 38<br>39        | 552<br>580 | $\begin{array}{c} 264 \\ 372 \end{array}$ |      | 331<br>327 | 707                                       | .02   | 659        | 666                                       | 1.5  | 334                                       | 772           | 2    |
|                 |            |   |      | 1          |   |       | l          |   | 1.0  |   |               | 2    |
| 40              | .11 609    | 9.06 481                                  | 1.8  | .99 324    | 9.99 705                                  | .02   | .11 688    | 9.06 775                                  | 1.8  | $0.93\ 225$ $115$                         | 8.5555        | 1    |
| 41              | 638        | 589                                       |      | 320        | $\begin{array}{c} 704 \\ 702 \end{array}$ | .03   | 718<br>747 | $\begin{array}{c} 885 \\ 994 \end{array}$ |      | 006                                       | 340<br>126    | 1    |
| 42              | 667        | 696                                       |      | 317        | 702                                       | .02   | 777        | $9.07\ 103$                               |      | 0.92 897                                  | 8.4913        | 1    |
| $\frac{43}{44}$ | 696<br>725 | $804 \\ 911$                              |      | 314<br>310 | , 699                                     | .03   | 806        | 211                                       |      | 789                                       | 701           | 1    |
|                 |            |   |      |            | 500                                       |       |            |   |      |   |               |      |
| 45              | 754        | 9.07 018                                  |      | 307        | 698                                       | .03   | 836        | $\begin{array}{c} 320 \\ 428 \end{array}$ |      | $\begin{array}{c} 680 \\ 572 \end{array}$ | 490<br>280    | 1    |
| 46              | 783        | 124                                       |      | 303        | 696                                       | .02   | 865        | $\begin{array}{c} 428 \\ 536 \end{array}$ |      | $\frac{572}{464}$                         |               | 1:   |
| 47              | 812        | 231                                       |      | 300        | 695                                       | .03   | 895        |   |      | 357                                       | 071           | 1    |
| 48              | 840        | 337                                       |      | 297        | 693                                       | .02   | 924        | $\frac{643}{751}$                         |      | 249                                       | 8.3863<br>656 | 1    |
| 49              | 869        | 442                                       |      | 293        | 692                                       | .03   | 954        |   |      |   |               |      |
| 50              | .11.898    | $9.07\ 548$                               | 1.8  | .99 290    | 9.99 690                                  | .02   | .11 983    | 9.07 858                                  | 1.8  | 0.92 142                                  | 8.8450        | 1    |
| 51              | 927        | 653                                       |      | 286        | 689                                       | .03   | .12 013    | 964                                       |      | 036                                       | 245           |      |
| 52              | 956        | 758                                       |      | 283        | 687                                       | .02   | 042        | 9.08 071                                  | /    | 0.91 929                                  | 041           |      |
| 53              | 985        | 863                                       |      | 279        | 686                                       | .03   | 072        | 177                                       |      | 823                                       | 8.2838        |      |
| 54              | .12 014    | 968                                       | 1.7  | 276        | 684                                       | .02   | 101        | 283                                       |      | 717                                       | . 636         |      |
| 55              | 043        | $9.08\ 072$                               |      | 272        | 683                                       | .03   | 131        | 389                                       |      | 611                                       | 434           |      |
| 56              | 071        | 176                                       |      | 269        | 681                                       | .02   | 160        | 495                                       |      | 505                                       | 234           |      |
| 57              | 100        | 280                                       |      | 265        | 680                                       | .03   | 190        | 600                                       |      | 400                                       | 035           |      |
| 58              | 129        | 383                                       |      | 262        | 678                                       | .02   | 219        | 705                                       |      | 295                                       | 8.1837        |      |
| 59              | 159        | 486                                       |      | 258        | 677                                       | .03   | 249        | 810                                       | 1.7  | 190                                       | 640           |      |
| 60              | .12 187    | 9.08 589                                  |      | .99 255    | 9.99 675                                  |       | .12 278    | 9.08 914                                  |      | 0.91 086                                  | 8.1443        |      |
| 96°             | Nat.       | Log.                                      | Dif. | Nat.       | Log.                                      | Dif.  | Nat.       | Log.                                      | Dif. | Log.                                      | Nat.          | 83   |
|                 |            |   |      |            |   |       |            |   |      |   |               | . 0. |

| 7°  |         | SINES.      |      |         | Cosines. |      | TAN     | GENTS.             |      | COTAN              | JENTS.     | 17  |
|-----|---------|-------------|------|---------|----------|------|---------|--------------------|------|--------------------|------------|-----|
|     | Nat.    | Log.        | Dif. | Nat.    | Log.     | Dif. | Nat.    | Log.               | Dif. | Log.               | Nat.       | 1.  |
| 0'  | .12 187 | 9.08 589    | 1.7  | .99 255 | 9.99 675 | .02  | .12 278 | 9.08 914           | 1.8  | 0.91 086           | 8,1443     | 60  |
| 1   | 216     | 692         |      | 251     | 674      | .03  | 808     | 9.09 019           | 1.7  | 0.90 981           | 248        | 59  |
| 2   | 245     | 795         |      | 248     | 672      |      | 338     | 123                | 2    | 877                | 054        | 58  |
| 3   | 274     | 897         |      | 244     | 670      | .02  | 367     | 227                |      | 773                | 8.0860     | 57  |
| 4   | 302     | 999         |      | 240     | 669      | .03  | 397     | _ 330              |      | 670                | 667        | 56  |
|     |         |             |      | 1       |          |      | 1       |                    |      |                    |            | Į.  |
| 5   | 331     | 9.09 101    |      | 237     | 667      | .02  | 426     | 434                |      | 566                | 476        | 58  |
| 6   | 360     | 202         |      | 233     | 666      | .03  | 456     | 537                |      | 463                | 285        | 54  |
| 7   | 389     | 304         |      | 230     | 664      | .02  | 485     | 640                |      | 360                | 095        | 53  |
| 8 ( | 418     | 405         |      | 226     | 663      | .08  | 515     | 742                |      | 258                | 7.9906     | 5:  |
| 9   | 447     | 506         |      | 222     | 661      |      | 544     | 845                |      | 155                | 718        | 5   |
| 10  | .12 476 | 9.09 606    | 1.7  | 99 219  | 9.99659  | .02  | .12 574 | 9.09947            | 1.7  | $0.90\ 053$        | 7.9530     | 5   |
| 11  | 504     | 707         |      | 215     | 658      | .03  | 603     | 9.10049            |      | 0.89 951           | 344        | 49  |
| 12  | 533     | 807         |      | 211     | 656      | .02  | 633     | 150                |      | 850                | .158       | 48  |
| 13  | 562     | 907         |      | 208     | 655      | .03  | 662     | 252                |      | 748                | 7.8973     | 4   |
| 14  | 591     | 9.10 006    |      | 204     | 653      | .00  | 692     | 353                |      | 647                | 789        | 4   |
|     |         |             |      | i       |          |      | 1       |                    |      |                    |            |     |
| 15  | 620     | . 106       |      | 200     | 651      | .02  | 722     | 454                |      | 546                | 606        | 4   |
| 16  | 649     | 205         |      | 197     | 650      | .03  | 751     | 555                |      | 445                | 424        | 4   |
| 17  | 678     | 304         | 1.6  | 193     | 648      | .02  | 781     | 656                |      | 344                | 243        | 43  |
| 18  | 706     | 402         | 1.7  | 189     | 647      | .08  | 810     | 756                |      | 244                | 062        | 4   |
| 19  | 735     | 501         | 1.6  | 186     | 645      |      | 840     | 856                |      | 144                | 7.7882     | 4   |
| 20  | .12 764 | 9.10 599    | 1.6  | .99 182 | 9.99 643 | .02  | .12 869 | 9.10 956           | 1.7  | 0.89 044           | 7.7704     |     |
| 21  | 793     | 697         | 1.0  | 178     | 642      | .03  | 899     | 9.11 056           | 1.1  | 0.88944            | 525        | 3   |
| 22  | 822     | 795         |      | 175     | 640      | .00  | 929     | 155                |      | 0.88 944<br>845    | 525<br>348 |     |
| 23  | ı       |             |      | 1       | 638      | 00   | 958     | $\frac{155}{254}$  |      |                    |            | 3   |
|     | 851     | 893         |      | 171     |          | .02  |         |                    |      | 746                | 171        | 3   |
| 24  | 880     | 990         |      | 167     | .637     | .03  | 988     | 353                |      | 647                | 7.6996     | 3   |
| 25  | 908     | $9.11\ 087$ |      | 163     | 635      |      | .13 017 | $\boldsymbol{452}$ |      | 548                | 821        | 3.  |
| 26  | 937     | 184         |      | 160     | 633      | .02  | 047     | 551                | 1.6  | 449                | 647        | 3.  |
| 27  | 966     | 281         |      | 156     | 632      | .08  | 076     | 649                |      | 351                | 473        | 3   |
| 28  | 995     | 377         |      | 152     | 630      | .02  | 106     | 747                |      | 253                | 301        | 3:  |
| 29  | .13 024 | 474         |      | 148     | 629      | .03  | 136     | 845                |      | 155                | 129        | 3   |
| 20  |         |             |      | 00.144  | 0.00.007 |      | 40.405  | 0.11.040           |      |                    |            | 1   |
| 30  | .13 053 | 9.11 570    | 1.6  | .99 144 | 9.99 627 | .03  | .13 165 | 9.11 943           | 1.6  | 0.88 057           | 7.5958,    | 3   |
| 31  | 081     | 666         |      | 141     | 625      | .02  | 195     | 9.12040            |      | 0.87 960           | 787        | 25  |
| 32  | 110     | 761         |      | 137     | 624      | .03  | 224     | 138                |      | 862                | 618        | 23  |
| 33  | 139     | 857         |      | 133     | 622      |      | 254     | 235                |      | 765                | 449        | 2'  |
| 34  | 168     | <b>952</b>  |      | 129     | 620      |      | 284     | 332                |      | 668                | 281        | 20  |
| 35  | 197     | 9.12 047    |      | 125     | 618      | .02  | 313     | 428                |      | 572                | 113        | 2   |
| 36  | 226     | 142         |      | 122     | 617      | .03  | 343     | 525                |      | 475                | 7.4947     | 2   |
| 37  | 254     | 236         |      | 118     | 615      |      | 372     | 621                |      | 379                | 781        | 2   |
| 38  | 283     | 331         |      | 114     | 613      | .02  | 402     | 717                |      | 283                | 615        | 2   |
| 39  | 312     | 425         |      | 110     | 612      | .03  | 432     | 813                |      | 187                | 451        | 2   |
|     |         |             |      |         |          |      |         |                    |      |                    |            | 1   |
| 40  | .13 341 | $9.12\ 519$ | 1.6  | .99 106 | 9.99 610 | .03  | .13 461 | 9.12 909           | 1.6  | 0.87 091           | 7.4287     | 2   |
| 41  | 370     | 612         |      | 102     | 608      | .02  | 491     | 9.13 004           |      | 0.86996            | 124        | 1:  |
| 42  | 399     | 706         |      | 098     | 607      | .03  | 521     | 099                |      | 901                | 7.3962     | 1:  |
| 43  | 427     | 799         |      | 094     | 605      |      | 550     | 194                |      | 806                | 800        | 1   |
| 44  | 456     | 892         |      | . 091   | 603      | •    | 580     | 289                |      | 711                | 639        | 1   |
| 45  | 485     | 985         |      | 087     | 601      | .02  | 609     | 384                |      | 616                | 479        | 1:  |
| 46  | 514     | 9.13 078    |      | 083     | 600      | .03  | 639     | 478                |      | 522                | 319        | 1.  |
| 47  | 543     | 171         | 1.5  | 079     | 598      | .00  | 669     | 573                |      | $\frac{322}{427}$  | 160        | 1:  |
| 48  | 572     | 263         | 1.0  | 075     | 596      | .02  | 698     | 667                |      | 333                | 002        | 1   |
| ,   |         |             |      | 073     | 595      | .02  | 728     | 761                |      | 239                |            |     |
| 49  | 600     | 355         |      |         |          |      | 1       |                    |      |                    | 7.2844     | 1   |
| 50  | .13 629 | $9.13\ 447$ | 1.5  | .99 067 | 9.99593  | .03  | .13 758 | $9.13\ 854$        | 1.6  | $0.86\ 146$        | 7.2687     | 1   |
| 51  | 658     | 539         |      | 063     | 591      |      | 787     | 948                |      | $\boldsymbol{052}$ | 531        | !   |
| 52  | 687     | 630         |      | 059     | 589      | .02  | 817     | $9.14\ 041$        |      | $0.85\ 959$        | 375        | 1   |
| 53  | 716     | 722         |      | 055     | 588      | .03  | 846     | 134                |      | 866                | 220        | ,   |
| 54  | 744     | 813         |      | 051     | 586      |      | 876     | 227                |      | 773                | 066        | (   |
|     |         |             |      |         |          |      | 906     | 320                | 1 8  |                    |            |     |
| 55  | 778     | 904         |      | 047     | 584      | 00   | ı       |                    | 1.5  | 680                | 7.1912     |     |
| 56  | 802     | 994         |      | 043     | 582.     | .02  | 935     | 412                | 4.0  | 588                | 759        | 4   |
| 57  | 831     | 9.14 085    |      | 089     | 581      | .03  | 965     | 504                | 1.6  | 496                | 607        | :   |
| 58  | 860     | 175         |      | 035     | 579      |      | 995     | 597                | 1.5  | 403                | 455        | 3   |
| 59  | 889     | 266         |      | 031     | 577      |      | .14 024 | 688                |      | 312                | 304        | ]   |
| 60  | .13 917 | 9.14 356    |      | .99 027 | 9.99 575 |      | .14 054 | 9.14 780           |      | $0.85\ 220$        | 7.1154     | (   |
|     | Nat.    | Log.        | Dif. | Nat.    | Log.     | Dif. | Nat.    | Log.               | Dif. | Log.               | Nat.       | 82  |
| 970 | TVat.   | . =8.       | 2    | 21100   |          |      |         | 0                  |      | 0                  |            | × ' |

| $8^{\circ}$     |         | SINES.      |      |            | Cosines.          |      | TANG    | GENTS.            |      | COTANO            | GENTS.         | 17  |
|-----------------|---------|-------------|------|------------|-------------------|------|---------|-------------------|------|-------------------|----------------|-----|
|                 | Nat.    | Log.        | Dif. | Nat.       | Log.              | Dif. | Nat.    | Log.              | Dif. | Log.              | Nat.           |     |
| 0'              | .13 917 | 9.14 356    | 1.5  | .99 027    | 9.99 575          | .02  | .14 054 | 9.14 780          | 1.5  | 0.85 220          | 7.1154         | 60  |
| 1               | 946     | 445         |      | 023        | 574               | .03  | 084     | 872               |      | 128               | 004            | 59  |
| 2               | 975     | 535         |      | 019        | 572               |      | 118     | 963               |      | 037               | 7.0855         | 58  |
| 3               | .14 004 | 624         |      | 015        | 570               |      | 143     | $9.15 \ 054$      |      | 0.84946           | 706            | 5   |
| 4               | 033     | 714         |      | 011        | 568               |      | 173     | 145               |      | 855               | 558            | 56  |
| 5               | 061     | 803         |      | 006        | 566               | .02  | 202     | 236               |      | 764               | 410            | 5   |
| 6               | 090     | 891         |      | 002        | 565               |      | 232     | $\frac{250}{327}$ |      | 673               | 264            | 5.  |
|                 | 1       |             |      |            |                   | .03  | 1       |                   |      |                   |                | 5   |
| 7               | 119     | 980         |      | .98 998    | 563               |      | 262     | 417               |      | 583               | = 117          |     |
| 8               | 148     | 9.15 069    |      | 994        | 561               |      | 291     | 508               |      | 492               | 6.9972         | 5   |
| 9               | 177     | 157         |      | 990        | 559               |      | 321     | 598               |      | 402               | S27            | 5   |
| 10              | .14 205 | $9.15\ 245$ | 1.5  | .98 986    | $9.99\ 557$       | .02  | .14 351 | 9.15 688          | 1.5  | $0.84\ 312$       | 6.9682         | 5   |
| 11              | 284     | 333         |      | 982        | 556               | .03  | 381     | 777               |      | 223               | 538            | 4   |
| 12              | 263     | 421         |      | 978        | 554               |      | 410     | 867               |      | 133               | 395            | 4   |
| 13              | 292     | 508         |      | 973        | 552               | -    | 440     | 956               |      | 044               | 252            | 4   |
| 14              | 320     | 596         |      | 969        | 550               |      | 470     | 9.16046           |      | $0.83\ 954$       | 110            | 4   |
| 15              | 349     | 683         |      | 965        | 548               |      | 499     | 135               |      | 865               | 6.8969         | 4   |
| 16              | 378     | 770         |      | 961        | 546               | .02  | 529     | $\frac{133}{224}$ |      | 776               | 828            | 4   |
| 17              | 407     | 857         |      | 957        | 545               | .03  | 559     | 312               |      | 688               | 687            | 4   |
| 18              | 436     | 944         | 1.4  | 958        | $\frac{545}{543}$ | .00  | 588     | 401               |      | 599               | 548            | 4   |
| 19              |         |             | 1.4  | 948        | $\frac{543}{541}$ |      | 618     | 489               |      | 511               | 408            | 4   |
|                 | 464     | 9.16 030    |      |            |                   |      |         |                   |      |                   |                |     |
| 20              | .14 493 | $9.16\ 116$ | 1.5  | .98 944    | 9.99539           | .03  | .14 648 | $9.16\ 577$       | 1.5  | $0.83\ 423$       | 6.8269         | 4   |
| 21              | 522     | 203         | 1.4  | 940        | 537               |      | 678     | 665               |      | 335               | 131            | -3  |
| 22              | 551     | 289         |      | 936        | 535               |      | 707     | 753               |      | 247               | 6.7994         | 3   |
| 23              | 580     | 374         |      | 981        | 533               | .02  | 787     | 841               |      | 159               | 856            | 3   |
| $^{24}$         | 608     | 460         |      | 927        | 532               | .03  | 767     | 928               |      | 072               | 720            | 3   |
| 25              | 637     | 545         |      | 923        | 530               |      | 796     | 9.17 016          |      | 0.82984           | 584            | 3   |
| $\frac{26}{26}$ | 666     | 631         |      | 919        | 528               |      | 826     | 103               |      | 897               | 448            | 3   |
| 27              | 695     | 716         |      | 914        | $\frac{526}{526}$ |      | 856     | 190               |      | 810               | 313            | 3   |
|                 |         |             |      |            |                   |      | 1       |                   | 1.4  | 723               |                | 3   |
| 28              | 723     | 801         |      | 910        | 524               |      | 886     | 277               | 1.4  |                   | 179            | 3   |
| 29              | 752     | 886         |      | 906        | 522               |      | 915     | 363               | 1.5  | 637               | 045            | 1   |
| 30              | .14 781 | 9.16970     | 1.4  | .98 902    | 9.99520           | .03  | .14 945 | $9.17\ 450$       | 1.4  | $0.82\ 550$       | 6.6912         | 3   |
| 31              | 810     | $9.17\ 055$ |      | 897        | 518               | .02  | 975,    | 536               |      | 464               | 779            | 2   |
| 32              | 838     | 139         |      | 893        | 517               | .03  | .15 005 | 622               |      | 378               | 646            | 2   |
| 33              | 867     | 223         |      | 889        | 515               |      | 034     | 708               |      | 292               | 514            | 2   |
| 34              | 896     | 307         |      | 884        | 513               |      | 064     | 794               |      | 206               | 383            | 2   |
| 35              | 925     | 391         |      | 880        | 511               |      | 094     | 880               |      | 120               | 252            | 2   |
| 36              | 954     | 474         |      | 876        | 509               |      | 124     | 965               |      | 035               | 122            | 2   |
| 37              | 952     | 558         |      | 1          | 507               |      | 153     | 9.18 051          |      | 0.81 949          | 6.5992         | 2   |
| 38              | 1       |             |      | 871        | 505               |      | 183     | 136               |      | 864               | 863            | 2   |
|                 | .15 011 | 641         |      | 867        |                   |      | 1       |                   |      | 779               | 734            | 2   |
| 39              | 040     | 724         |      | 863        | 503               |      | 213     | 221               |      |                   |                | l . |
| 40              | .15 069 | 9.17807     | 1.4  | .98 858    | $9.99\ 501$       | .03  | .15 243 | $9.18\ 306$       | 1.4  | $0.81\ 694$       | 6.5606         | 2   |
| 41              | 097     | 890         |      | 854        | 499               |      | 272     | 391               |      | 609               | 478            | 1   |
| 42              | 126     | 973         |      | 849        | 497               |      | . 302   | 475               |      | 525               | 350            | 1   |
| 43              | 155     | 9.18  055   |      | 845        | 495               | .02  | 382     | 560               |      | 440               | 223            | 1   |
| 44              | 154     | 137         |      | 841        | 494               | .03  | 362     | 644               |      | 356               | 097            | 1   |
| 45              | 212     | 220         |      | 836        | 492               |      | 391     | 728               |      | 272               | 6,4971         | 1   |
| 46              | 241     | 302         |      | 832        | 490               |      | 421     | 812               |      | 188               | 846            | 1   |
| 47              | 241     | 383         |      |            | 488               |      | 451     | 896               |      | 104               | 721            | 1   |
| 48              | 299     | 465         |      | 827<br>828 | 486               |      | 451     | 979               |      | 021               | 596            | 1   |
|                 | 1       |             |      |            |                   |      | 511     | 9,19 063          |      | 0.80937           | 472            | 1   |
| 49              | 827     | 547         |      | 818        | 484               |      |         |                   |      |                   |                | 1   |
| 50              | .15 356 | $9.18\ 628$ | 1.4  | .98 814    | 9.99482           | .03  | .15 540 | $9.19\ 146$       | 1.4  | $0.80\ 854$       | 6.4348         | 1   |
| 51              | 355     | 709         |      | 809        | 480               |      | 570     | 229               |      | 771               | 225            |     |
| 52              | 414     | 790         |      | 805        | 478               |      | 600     | 312               |      | 688               | 103            |     |
| 53              | 442     | 871         |      | 500        | 476               |      | 630     | 395               |      | 605               | 6.3980         |     |
| 54              | 471     | 952         |      | 796        | 474               |      | 660     | 478               |      | 522               | 859            |     |
| 55              | 500     | 9.19 033    | 1,8  | 791        | 472               |      | 659     | 561               |      | 439               | 737            |     |
|                 | 529     | 113         | 1.0  | 491<br>757 | 470               |      | 719     | 643               |      | 357               | 617            |     |
| 56<br>57        |         |             |      |            |                   |      | 1       | 725               |      | $\frac{351}{275}$ | 496            |     |
| 57              | 557     | 193         |      | 752        | 468               |      | 749     |                   |      |                   |                |     |
| 58              | 586     | 273         |      | 1775       | 466               |      | 779     | 807               |      | 193               | 376            |     |
| 59              | 615     | 353         |      | 773        | 464               |      | 509     | 889               |      | 111               | 257            |     |
| 60              | .15 643 | 9.19 433    |      | .95 769    | 9,99 462          |      | .15 838 | 9.19 971          |      | 0.80 029          | <b>6.313</b> 8 | '   |
| )8°             | Nat.    | Log.        | Dif. | Nat.       | Log.              | Dif. | Nat.    | Log.              | Dif. | Log.              | Nat.           | 8   |
|                 |         |             |      |            |                   |      |         |                   |      |                   |                |     |

| 9°              |            | SINES.            |      |            | Cosines.                                  |      | TAN        | GENTS.             |      | COTAN             | GENTS.        | 170  |
|-----------------|------------|-------------------|------|------------|---|------|------------|--------------------|------|-------------------|---------------|------|
|                 | Nat.       | Log.              | Dif. | Nat.       | Log.                                      | Dif. | Nat.       | Log.               | Dif. | Log.              | Nat.          | 1.00 |
| 0'              | .15 643    | 9.19 433          | 1.3  | .98 769    | $9.99\ 462$                               | .03  | .15 838    | 9.19 971           | 1.4  | 0.80 029          | 6,3138        | 60   |
| 1               | 1672       | '513              | ,    | 764        | 460                                       |      | 868        | 9.20053            |      | 0.79947           | 019           | 59   |
| 2               | 701        | 592               |      | 760        | 458                                       |      | 898        | 134                |      | 866               | 6.2901        | 58   |
| 3               | 730        | 672               |      | 755        | 456                                       |      | 928        | 216                |      | 784               | 783           | 57   |
| 4               | 758        | 751               |      | 751        | 454                                       |      | 958        | 297                |      | 703               | 666           | 56   |
| 5               | 787        | 830               |      | 746        | 452                                       |      | 988        | 378                |      | 622               | 549           | 55   |
| 6               | 816        | 909               |      | 741        | 450                                       |      | .16 017    | 459                |      | 541               | 432           | 54   |
| 7               | 845        | 988               |      | 737        | 448                                       |      | 047        | 540                |      | 460               | 316           | 53   |
| 8               | 873        | $9.20\ 067$       |      | 732        | 446                                       |      | 077        | 621                | 1.3  | 379               | 200           | 52   |
| 9               | 902        | 145               |      | 728        | 444                                       |      | 107        | 701                | 1.4  | 299               | 085           | 51   |
| 10              | .15 931    | 9.20 223          | 1.3  | .98 723    | 9.99442                                   | .03  | .16 137    | 9.20 782           | 1.3  | 0.79 218          | 6.1970        | 50   |
| 11              | 959        | 302               |      | 718        | 440                                       | •00  | 167        | 862                | 1.0  | 138               | 856           | 49   |
| 12              | 988        | 380               |      | 714        | 438                                       |      | 196        | 942                |      | 058               | 742           | 48   |
| 13              | .16 017    | 458               |      | 709        | 436                                       |      | 226        | $9.21\ 022$        |      | 0.78 978          | 628           | 48   |
| 14              | 046        | 535               |      | 704        | 434                                       |      | 256        | 102                |      | 898               | 515           | 46   |
| 15              | 074        | 613               |      | 700        | 432                                       | 0.5  |            |                    |      |                   |               | 1    |
| 16              | 103        | 691               |      | 695        |   | .05  | 286        | 182                |      | 818               | 402           | 45   |
| 17              | 132        | 768               |      | 690        | $\frac{429}{427}$                         | .03  | 316        | 261                |      | 739               | 290           | 44   |
| 18              | 160        | 845               |      | 686        | $\begin{array}{c} 427 \\ 425 \end{array}$ |      | 346        | 341                |      | 659               | 178           | 43   |
| 19              | 189        | 922               |      | 681        | $\frac{423}{423}$                         |      | 376<br>405 | 420                |      | 580               | 066           | 42   |
|                 |            |                   |      | 1          |   |      |            | 499                |      | 501               | 6.0955        | 41   |
| 20              | .16 218    | 9.20 999          | 1.3  | .98 676    | 9.99 421                                  | .03  | .16 435    | $9.21\ 578$        | 1.3  | $0.78\ 422$       | 6.0844        | 40   |
| 21              | 246        | 9.21 076          |      | 671        | 419                                       |      | 465        | 657                |      | 343               | 734           | 39   |
| 22              | 275        | 153               |      | 667        | 417                                       |      | 495        | 736                |      | $\bf 264$         | 624           | 38   |
| 23              | 304        | 229               |      | 662        | 415                                       |      | 525        | 814                |      | 186               | 514           | 37   |
| 24              | 333        | 306               |      | 657        | 413                                       |      | 555        | 893                |      | 107               | 405           | 36   |
| 25              | 361        | 382               | -    | 652        | 411                                       |      | 585        | 971                |      | 029               | 296           | 35   |
| 26              | 390        | 458               |      | 648        | 409                                       |      | 615        | $9.22\ 049$        |      | 0.77951           | 188           | 34   |
| 27              | 419        | 534               |      | 643        | 407                                       | .05  | 645        | 127                |      | 873               | 080           | 33   |
| 28              | 447        | 610               |      | 638        | 404                                       | .03  | 674        | 205                |      | 795               | 5.9972        | 32   |
| 29              | 476        | 685               |      | 633        | 402                                       |      | 704        | 283                |      | 717               | 865           | 31   |
| 30              | .16 505    | 9.21761           | 1.3  | .98 629    | 9.99400                                   | .03  | .16 734    | 9.22 361           | 1.3  | 0.77 639          | 5.9758        | 30   |
| 31              | 533        | 836               |      | 624        | 398                                       |      | 764        | 438                | 1.0  | 562               | 651           | 29   |
| 32              | 562        | 912               |      | 619        | 396                                       |      | 794        | 516                |      | 484               | 545           | 28   |
| 33              | 591        | 987               |      | 614        | 394                                       |      | 824        | 593                |      | 407               | 439           | 27   |
| 34              | 620        | 9.22062           |      | 609        | 392                                       |      | 854        | 670                |      | 330               | 333           | 26   |
| 35              | 648        | 137               | 1.2  | 604        | 390                                       |      | 884        | 747                |      | 253               |               | 25   |
| 36              | 677        | 211               | 1.3  | 600        | 388                                       | .05  | 914        | 824                |      | 176               | 228           | 23   |
| 37              | 706        | 286               | 1.0  | 595        | 385                                       | .03  | 944        | 901                |      | 099               | 124           | 23   |
| 38              | 734        | 361               | 1.2  | 590        | 383                                       | .00  | 974        | 977                |      | 023               | 019<br>5.8915 | 23   |
| 39              | 763        | 435               |      | 585        | 381                                       |      | .17 004    | 9.23 054           |      | 0.76946           | 811           | 21   |
|                 |            |                   |      |            |   |      |            |                    |      |                   |               |      |
| 40              | .16 792    | 9.22509           | 1.2  | .98 580    | 9.99379                                   | .03  | .17 033    | 9.23 130           | 1.3  | 0.76 870          | 5.8708        | 20   |
| $\frac{41}{42}$ | 820        | $\frac{583}{657}$ |      | 575<br>570 | 377                                       | O.P. | 063        | 206                |      | 794               | 605           | 19   |
| 42              | 849<br>878 | 731               |      | 570<br>565 | 375                                       | .05  | 093        | 283                |      | 717               | 502           | 18   |
| 44              | 906        | 805               | 1    | 565<br>561 | $\frac{372}{370}$                         | .03  | 123        | 359                |      | 641               | 400           | 17   |
|                 | 900        |                   |      | 561        |   |      | 158        | 435                |      | 565               | 298           | 16   |
| 45              | 935        | 878               |      | 556        | 368                                       |      | 183        | 510                |      | 490               | 197           | 15   |
| 46              | 964        | 952               | į    | 551        | 366                                       |      | 213        | 586                |      | 414               | 095           | 14   |
| 47              | 992        | 9.23 025          | Í    | 546        | 364                                       |      | 243        | 661                |      | 339               | 5.7994        | 13   |
| 48              | .17 021    | 098               |      | 541        | 362                                       | .05  | 273        | 737                |      | 263               | 894           | 12   |
| 49              | 050        | 171               |      | 536        | 359                                       | .03  | 303        | 812.               |      | 188               | 794           | 11   |
| 50              | .17 078    | $9.23\ 244$       | 1,2  | .98 531    | $9.99\ 357$                               | .03  | .17 333    | 9.23 887           | 1.3  | 0.76 113          | 5.7694        | 10   |
| 51              | 107        | 317               |      | 526        | 355                                       | İ    | 363        | $\boldsymbol{962}$ |      | 038               | 594           | 9    |
| 52              | 136        | 390               | .    | 521        | 353                                       |      | 393        | $9.24\ 037$        |      | 0.75963           | 495           | 8    |
| 53              | 164        | 462               |      | 516        | 351                                       | .05  | 423        | 112                | 1.2  | 888               | 396           | 4    |
| 54              | 193        | 535               |      | 511        | 348                                       | .03  | 453        | 186                | 1.3  | 814               | 297           | 6    |
| 55              | 222        | 607               |      | 506        | 346                                       |      | 483        | 261                | 1.2  | 739               | 199           | 5    |
| 56              | 250        | 679               | - 1  | 501        | 344                                       |      | 513        | 335                | 1.3  | 665               | 101           | 4    |
| 57              | 279        | 752               |      | 496        | 342                                       |      | 543        | 410                | 1.2  | 590               | 004           | 3    |
| 58              | 308        | 823               |      | 491        | 340                                       | .05  | 573        | 484                |      | 516               | 5.6906        | 2    |
| 59              | 336        | 895               |      | 486        | 337                                       | .03  | 603        | 558                |      | $\frac{310}{442}$ | 809           | 1    |
| 60              | .17 365    | 9.23 967          |      | .98 481    | 9.99 335                                  |      | .17 633    | 9.24 632           |      | 0.75 368          | 5.6713        | 0    |
|                 | .1. 500    |                   |      | .00 101    |   |      | .1, 000    | J.21 UJ2           |      | 0.10 000          | 3,0,10        |      |
| 90              | Nat.       | Log.              | Dif. | Nat.       | Log.                                      | Dif. | Nat.       | Log.               | Dif. | Log.              | Nat.          | 80   |
| , ,             |            |                   |      |            |   |      |            |                    |      |                   |               |      |

| 10°           |                | SINES.      |      |                | Cosines.          |      | TANG    | GENTS.            |      | COTANG      | ENTS.  | 169 |
|---------------|----------------|-------------|------|----------------|-------------------|------|---------|-------------------|------|-------------|--------|-----|
| 10            | Nat.           | Log.        | Dif. | Nat.           | Log.              | Dif. | Nat.    | Log.              | Dif. | Log.        | Nat.   | 100 |
| 0'            | .17 365        | 9.23 967    | 1.2  | .98 481        | 9.99 335          | .03  | .17 633 | 9.24 632          | 1,2  | 0.75 368    | 5.6713 | 60  |
| 1             | 393            | 9.24 039    |      | 476            | 333               | •    | 668     | 706               |      | 294         | 617    | 59  |
|               | 422            | 110         |      | 471            | 331               | .05  | 693     | 779               |      | 221         | 521    | 58  |
| $\frac{2}{3}$ |                | 181         |      | 466            | 328               | .03  | 728     | 853               |      | 147         | 425    | 57  |
| 4             | 451<br>479     | 253         |      | 461            | 326               | .170 | 758     | 926               |      | 074         | 329    | 56  |
|               |                |             |      |                |                   |      |         |                   |      |             |        | 1   |
| 5             | 508            | 324         |      | 455            | 324               |      | 783     | $9.25\ 000$       |      | 000         | 234    | 55  |
| 6             | 537            | 395         |      | 450            | 322               | .05  | S13     | 073               |      | 0.74927     | 140    | 54  |
| 7             | 565            | 466         |      | 445            | 319               | .03  | 843     | 146               |      | 854         | 045    | 53  |
| 8             | 594            | 536         |      | 440            | 317               |      | 873     | 219               |      | 781         | 5.5951 | 52  |
| 9             | 623            | 607         |      | 485            | 315               |      | 903     | 292               |      | 708         | 857    | 51  |
| 10            | .17 651        | $9.24\ 677$ | 1.2  | .98 430        | 9.99 313          | .05  | .17 983 | $9.25\ 365$       | 1.2  | 0.74 635    | 5.5764 | 50  |
| 11            | 680            | 748         | 1    | 425            | 310               | .03  | 963     | 437               |      | 563         | 671    | 45  |
| 12            | 708            | 818         |      | 420            | 308               | .00  | 993     | 510               |      | 490         | 578    | 48  |
| 13            | 737            | 888         |      | 414            | 306               |      | .18 023 | 582               |      | 418         | 485    | 4   |
|               |                | 958         |      | 409            | 304               | .05  | 053     | 655               |      | 345         | 393    | 4   |
| 14            | 766            |             |      | Į.             |                   |      | i       |                   |      |             |        |     |
| 15            | 794            | 9.25  028   |      | 404            | 301               | .03  | 083     | 727               |      | 273         | 301    | 4   |
| 16            | 823            | 098         |      | 399            | 299               |      | 113     | 799               |      | 201         | 209    | 4   |
| 17            | 852            | 168         |      | 394            | 297               | .05  | 143     | 871               |      | 129         | 118    | 4   |
| 18            | 880            | 237         |      | 389            | 294               | .03  | 173     | 943               |      | 057         | 026    | 4   |
| 19            | 909            | 307.        |      | 383            | 292               |      | 203     | $9.26\ 015$       |      | 0.73985     | 5,4936 | 4   |
| 9.0           | 1= 00=         | 9.25 376    | 1.0  | 00 970         | 9,99 290          | .03  | .18 233 | 9.26086           | 1.2  | 0.73 914    | 5.4845 | 4   |
| 20<br>21      | .17 937<br>966 | 9.25 376    | 1.2  | .98 378<br>373 | 288               | .05  | 263     | 158               | 1.2  | 842         | 755    | 3   |
|               |                |             |      | 1              |                   |      | 1       | $\frac{133}{229}$ |      | 771         | 665    | 3   |
| 22            | 995            | 514         |      | 868            | 285               | .03  | 293     |                   |      |             |        |     |
| 23            | .18 023        | 583         |      | 362            | 283               |      | 323     | 301               |      | 699         | 575    | 3   |
| 24            | 052            | 652         |      | 357            | 281               | .05  | 353     | 372               |      | 628         | 486    | 3   |
| 25            | 081            | 721         |      | 352            | 278               | .03  | 384     | 443               |      | 557         | 397    | 3   |
| 26            | 109            | 790         | 1.1  | 347            | 276               |      | 414     | 514               |      | 486         | 808    | 3   |
| 27            | 138            | 858         | 1.2  | 341            | 274               | .05  | 444     | 585               |      | .415        | 219    | 3   |
| 28            | 166            | 927         | 1.1  | 336            | 271               | .03  | 474     | 655               |      | 345         | 131    | 3   |
| 29            | 195            | 995         | -,,  | 331            | 269               | •    | 504     | 726               |      | 274         | 043    | 3   |
|               |                |             |      |                |                   |      |         |                   | 4.0  |             |        | 1   |
| 30            | .18 224        | 9.26063     | 1.1  | .98 325        | 9.99 267          | .05  | .18 534 | 9.26 797          | 1.2  | 0.73 203    | 5,3955 | 3   |
| 31            | 252            | 131         |      | 320            | 264               | .03  | 564     | 867               |      | 133         | 868    | 2   |
| 32            | 281            | 199         |      | 315            | 262               |      | 594     | 937               |      | 063         | 781    | 2   |
| 33            | 309            | 267         |      | 310            | 260               | .05  | 624     | 9.27008           |      | 0.72992     | 694    | 2   |
| 34            | 338            | 335         |      | 304            | 257               | .03  | 654     | 078               |      | 922         | 607    | 2   |
| 35            | 367            | 403         |      | 299            | 255               | .05  | 684     | 148               |      | 852         | 521    | 2   |
| 36            | 395            | 470         |      | 294            | 252               | .03  | 714     | 218               |      | 782         | 435    | 2   |
| 37            | 424            | 538         |      | 288            | 250               | .00  | 745     | 288               |      | 712         | 349    | 2   |
| 38            | 452            | 605         |      | 283            | 248               | .05  | 775     | 357               |      | 643         | 263    | 2   |
| 39            | 481            | 672         |      | 277            | 245               | .03  | 805     | 427               |      | 573         | 178    | 2   |
|               | 451            |             |      |                |                   |      | 1       |                   |      |             |        | 1   |
| 40            | .18 509        | 9.26739     | 1.1  | .98 272        | 9.99243           | .03  | .18 835 | $9.27\ 496$       | 1.2  | $0.72\ 504$ | 5.3093 | 2   |
| 41            | 538            | 806         |      | 267            | 241               | .05  | 865     | 566               |      | 434         | 008    | 1   |
| 42            | 567            | 873         |      | 261            | 238               | .03  | 895     | 635               |      | 365         | 5.2924 | 1   |
| 43            | 595            | 940         |      | 256            | 236               | .05  | 925     | 704               |      | 296         | 839    | 1   |
| 44            | 624            | $9.27\ 007$ |      | 250            | 233               | .03  | 955     | 773               |      | 227         | 755    | 1   |
| 45            | 652            | 073         |      | 245            | 231               |      | 986     | 842               |      | 158         | 672    | 1   |
|               |                |             |      | 1              | $\frac{231}{229}$ | 45   | .19 016 | 911               |      | 089         | 588    | 1   |
| 46            | 681            | 140         |      | 240            |                   | .05  |         | 980               |      | 020         | 505    | 1   |
| 47            | 710            | 206         |      | 234            | 226               | .03  | 046     |                   |      |             |        | 1   |
| 48            | 738            | 273         |      | 229            | 224               | .05  | 076     | 9.28049           | 1.1  | 0.71 951    | 422    | 1   |
| 49            | 767            | 339         |      | 223            | 221               | .03  | 106     | 117               | 1.2  | 883         | 339    | 1   |
| 50            | .18 795        | 9.27405     | 1.1  | .98 218        | $9.99\ 219$       | .03  | .19 136 | $9.28\ 186$       | 1.1  | $0.71\ 814$ | 5.2257 | 1   |
| 51            | 824            | 471         |      | 212            | 217               | .05  | 166     | 254               | 1.2  | 746         | 174    |     |
| 52            | 852            | 537         |      | 207            | 214               | .03  | 197     | 323               | 1.1  | 677         | 092    |     |
| 53            | 551            | 602         |      | 201            | 212               | .05  | 227     | 391               |      | 609         | 011    |     |
| 54            | 910            | 668         |      | 196            | 209               | .03  | 257     | 459               |      | 541         | 5.1929 |     |
|               |                |             |      |                |                   |      |         |                   |      |             |        |     |
| 55            | 938            | 734         |      | 190            | 207               | .05  | 287     | 527               |      | 473         | 848    |     |
| 56            | 967            | 799         |      | 185            | 204               | .03  | 817     | 595               |      | 405         | 767    |     |
| 57            | 995            | 864         |      | 179            | 202               |      | 347     | 662               |      | 338         | 686    |     |
| 58            | .19 024        | 930         |      | 1,74           | 200               | .05  | 878     | 730               |      | 270         | 606    |     |
| 59            | 052            | 995         |      | 165            | 197               | .03  | 408     | 798               |      | 202         | 526    |     |
| 60            | .19 081        | 9.28 060    |      | .98 163        | 9,99 195          |      | .19 438 | $9.28\ 865$       |      | 0.71 135    | 5,1446 |     |
|               | Nat.           | Log.        | Dif. | Nat,           | Log.              | Dif. | Nat.    | Log.              | Dif. | Log.        | Nat.   | 79  |
| $00^{\circ}$  |                |             |      |                |                   |      |         |                   |      |             |        |     |

| 11°  |            | SINES.            |      |            | Cosines.    |      | TANG    | ENTS.                                     |            | COTANG                                    | ENTS.      | 168  |
|------|------------|-------------------|------|------------|-------------|------|---------|---|------------|---|------------|------|
|      | Nat.       | Log.              | Dif. | Nat.       | Log.        | Dif. | Nat.    | Log.                                      | Dif.       | Log.                                      | Nat.       | 1100 |
| 0'   | .19 081    | 9.28 060          | 1.1  | .98 163    | 9.99 195    | .05  | .19 438 | 9.28 865                                  | 1.1        | 0.71 135                                  | 5.1446     | 60   |
| 1    | 109        | 125               |      | 157        | 192         | .03  | 468     | 933                                       |            | 067                                       | 366        | 59   |
| 2    | 138        | 190               |      | 152        | 190         | .05  | 498     | $9.29\ 000$                               |            | 000                                       | 286        | 58   |
| 3    | 167        | 254               |      | 146        | 187         | .03  | 529     | 067                                       |            | 0.70933                                   | 207        | 57   |
| 4    | 195        | 319               |      | 140        | 185         | .05  | 559     | 134                                       |            | 866                                       | 128        | 56   |
| 5    | 224        | 384               |      | 135        | 182         | .03  | 589     | 201                                       |            | 799                                       | 049        | 55   |
| 6    | 252        | 448               |      | 129        | 180         | .05  | 619     | 268                                       |            | 732                                       | 5.0970     | 54   |
| 7    | 281        | 512               |      | 124        | 177         | .03  | 649     | * 335                                     |            | 665                                       | 892        | 53   |
| 8    | 309        | 577               |      | 118        | 175         | .05  | 680     | 402                                       |            | 598                                       | 814        | 52   |
| 9    | 338        | 641               |      | 112        | 172         | ~03  | 710     | 468                                       |            | <b>532</b>                                | 736        | 51   |
| 10   | .19 366    | 9.28 705          | 1.1  | .98 107    | 9.99 170    | .05  | .19 740 | $9.29\ 535$                               | 1.1        | $0.70\ 465$                               | 5.0658     | 50   |
| 11   | 395        | 769               |      | 101        | 167         | .03  | 770     | 601                                       |            | 399                                       | 581        | 49   |
| 12   | 423        | 833               |      | 096        | 165         | .05  | 801     | 668                                       |            | 332                                       | 504        | 48   |
| 13   | 452        | 896               |      | 090        | 162         | .03  | 831     | 734                                       |            | 266                                       | 427        | 47   |
| 14   | 481        | 960               |      | 084        | 160         | .05  | 861     | 800                                       |            | 200                                       | 350        | 46   |
| 15   | 509        | 9.29 024          |      | 079        | 157         | .03  | 891     | 866                                       |            | 134                                       | 273        | 45   |
| 16   | 538        | 087               |      | 073        | 155         | .05  | 921     | 932                                       |            | 068                                       | 197        | 44   |
| 17   | 566        | 150               |      | 067        | 152         | .03  | 952     | 998                                       |            | 002                                       | 121        | 43   |
| 18   | 595        | 214               |      | 061        | 150         | .05  | 982     | 9.30 064                                  |            | 0.69936                                   | 045        | 42   |
| 19   | 623        | 277               |      | 056        | 147         | .03  | .20 012 | 130                                       |            | 870                                       | 4.9969     | 41   |
| 20   | .19 652    | 9.29 340          | 1.1  | .98 050    | 9.99 145    | .05  | .20 042 | 9.30 195                                  | 1.1        | 0.69 805                                  | 4.9894     | 40   |
| 21   | 680        | 403               | 1.1  | 044        | 142         | .03  | 073     | 261                                       | 1.1        | 739                                       | 819        | 39   |
| 22   | 709        | 466               |      | 039        | 142         | .05  | 103     | . 326                                     |            | 674                                       | 744        | 38   |
| 23   | 737        | 529               | 1.0  | 033        | 137         | .03  | 133     | 391                                       |            | 609                                       | 669        | 37   |
| 24   | 766        | 591               | 1.1  | 027        | 135         | .05  | 164     | 457                                       |            | 543                                       | 594        | 36   |
|      |            |                   |      | 1          |             |      | l       |   |            |   |            |      |
| 25   | 794        | 654               | 1.0  | 021        | 132         | .03  | 194     | 522                                       |            | 478                                       | 520        | 35   |
| 26   | 823        | 716               | 1.1  | 016        | 130         | .05  | 224     | 587                                       |            | 413                                       | 446        | 34   |
| 27   | 851        | 779               | 1.0  | 010        | 127         | 00   | 254     | 652                                       |            | 348<br>283                                | 372<br>298 | 32   |
| 28   | 880        | 841               |      | 004        | 124         | .03  | 285     | $\begin{array}{c} 717 \\ 782 \end{array}$ |            | 218                                       | 298<br>225 | 31   |
| 29   | 908        | 903               | 1.1  | .97 998    | 122         | .05  | 315     |   |            |   |            | 1    |
| 30   | .19 937    | 9.29966           | 1.0  | .97 992    | $9.99\ 119$ | .03  | .20 345 | 9.30846                                   | 1.1        | $0.69\ 154$                               | 4.9152     | 30   |
| 31   | 965        | $9.30\ 028$       |      | 987        | 117         | .05  | 376     | 911                                       |            | 089                                       | 078        | 29   |
| 32   | 994        | 090               |      | 981        | 114         | .03  | 406     | 975                                       |            | 025                                       | 006        | 28   |
| 33   | .20 022    | . 151             |      | 975        | 112         | .05  | 436     | 9.31 040                                  |            | 0.68 960                                  | 4.8933     | 27   |
| 34   | 051        | 213               |      | 969        | 109         |      | 466     | 104                                       |            | 896                                       | 860        | 26   |
| 35   | 079        | 275               |      | 963        | 106         | .03  | 497     | 168                                       |            | 832                                       | 788        | 25   |
| 36   | 108        | 336               |      | 958        | 104         | .05  | 527     | 233                                       |            | 767                                       | 716        | 24   |
| 37   | 136        | 398               |      | 952        | 101         | .03  | 557     | 297                                       |            | 703                                       | 644        | 23   |
| 38   | 165        | 459               |      | 946        | 099         | .05  | 588     | 361                                       |            | 639                                       | 573        | 22   |
| 39   | 193        | 521               |      | 940        | 096         |      | 618     | $\bf 425$                                 |            | 575                                       | 501        | 21   |
| 40   | .20 222    | 9.30 582          | 1.0  | .97 934    | 9.99 093    | .03  | .20 648 | $9.31\ 489$                               | 1.1        | $0.68\ 511$                               | 4.8430     | 20   |
| 41   | 250        | 643               | 1.0  | 928        | 091         | .05  | 679     | 552                                       |            | 448                                       | 359        | 19   |
| 42   | 279        | 704               |      | 922        | 088         | .03  | 709     | 616                                       |            | 384                                       | 288        | 18   |
| 43   | 307        | .765              |      | 916        | 086         | .05  | 739     | 679                                       |            | 321                                       | 218        | 17   |
| 44   | 336        | 826               |      | 910        | 083         |      | 770     | 743                                       |            | 257                                       | 147        | 16   |
|      |            |                   |      | 1          | 080         | .03  | 800     | 806                                       |            | 194                                       | 077        | 15   |
| 45   | 364        | 887               |      | 905<br>899 | 078         | .05  | 830     | 870                                       |            | 130                                       | 007        | 14   |
| 46   | 393        | 947               |      | 899        | 075         | .00  | 861     | 933                                       |            | 067                                       | 4.7937     | 13   |
| 47   | 421        | $9.31\ 008$ $068$ |      | 893        | 073         | .03  | 891     | 996                                       |            | 004                                       | 867        | 12   |
| 48   | 450<br>478 | 129               |      | 881        | 070         | .05  | 921     | 9.32 059                                  |            | 0.67 941                                  | 798        | 11   |
| 49   |            |                   |      | 1          |             |      | 1       |   | 4 4        |   |            | 10   |
| 50   | .20 507    | 9.31 189          | 1.0  | .97 875    | 9.99 067    | .05  | .20 952 | 9.32 122                                  | 1.1        | 0.67 878                                  | 4.7729     | 10   |
| 51   | 535        | 250               |      | 869        | 064         | .03  | 982     | 185                                       |            | $\begin{array}{c} 815 \\ 752 \end{array}$ | 659<br>591 | 8    |
| 52   | 563        | 310               |      | 863        | 062         | .05  | .21 013 | 248                                       | 1.0        | 689                                       | 591<br>522 | 7    |
| 53   | 592        | 370               |      | 857        | 059         | 20   | 043     | 311                                       | 1.0<br>1.1 | 627                                       | 453        | 6    |
| 54   | 620        | 430               |      | 851        | 056         | .03  | 073     | 373                                       |            |   |            |      |
| 55   | 649        | 490               | .98  | 845        | 054         | .05  | 104     | 436                                       | 1.0        | 564                                       | 385        | 5    |
| 56   | 677        | 549               | 1.0  | 839        | 051         |      | 134     | 498                                       | 1.1        | 502                                       | 317        | 4    |
| 57   | 706        | 609               |      | 833        | 048         | .03  | 164     | 561                                       | 1.0        | 439                                       | 249        | 3    |
| 58   | 734        | 669               | .98  | 827        | 046         | .05  | 195     | 623                                       |            | 377                                       | 181        | 2    |
| 59   | 763        | 728               | 1.0  | 821        | 043         |      | 225     | $^{\circ}685$                             |            | 315                                       | 114        | 1    |
| 60   | .20 791    | 9.31 788          |      | .97 815    | 9.99 040    |      | .21 256 | 9.32 747                                  |            | 0.67 253                                  | 4.7046     | C    |
| 101° | Nat.       | Log.              | Dif. | Nat.       | Log.        | Dif. | Nat.    | Log.                                      | Dif.       |   | Nat.       | 78   |
|      |            |                   |      |            |             |      |         |   |            | TANG                                      |            |      |

| $12^{\circ}$    |         | SINES.      |      |         | Cosines. |      | TAN     | GENTS.      |      | COTAN       | GENTS. | 16 |
|-----------------|---------|-------------|------|---------|----------|------|---------|-------------|------|-------------|--------|----|
| 12              | Nat.    | Log.        | Dif. | Nat.    | Log.     | Dif. | Nat.    | Log.        | Dif. | Log.        | Nat.   | 10 |
| 0'              | .20 791 | 9.31 788    | .98  | .97 815 | 9.99 040 | .03  | .21 256 | 9.32 747    | 1.1  | 0.67 253    | 4.7046 | 60 |
| 1               | \$20    | 847         | 1.0  | 809     | 038      | .05  | 286     | 810         | 1.0  | 190         | 4.6979 | 5  |
| 2               | 848     | 907         | .98  | 803     | 035      | .00  | 316     | 872         | 1.0  | 128         | 912    | 5  |
| 3               | 877     | 966         |      | 797     | 032      | .03  | 347     | 933         |      | 067         | 845    | 5  |
| 4               | 905     | $9.32\ 025$ |      | 791     | 030      | .05  | 377     | 995         |      | 005         | 779    | 5  |
|                 |         |             |      |         |          | .00  |         |             |      |             |        | 1  |
| 5               | 933     | 084         |      | 784     | 027      |      | 408     | $9.33\ 057$ |      | 0.66943     | 712    | 5  |
| 6               | 962     | 143         |      | 778     | 024      | .03  | 438     | 119         |      | 881         | 646    | 5  |
| 7               | 990     | 202         |      | 772     | 022      | .05  | 469     | 180         |      | 820         | 580    | 5  |
| 8               | .21 019 | 261         | .97  | 766     | 019      |      | 499     | 242         |      | 758         | 514    | 5  |
| 9               | 047     | 319         | .98  | 760     | 016      |      | 529     | 303         |      | 697         | 448    | 5  |
| 10              | .21 076 | 9.32 378    | .98  | .97 754 | 9.99 013 | .03  | .21 560 | 9.33 365    | 1.0  | 0.66 635    | 4,6382 | 5  |
| 11              | 104     | 437         | .97  | 748     | 011      | .05  | 590     | 426         | •••  | 574         | 317    | 4  |
| 12              | 132     | 495         |      | 742     | 008      | •00  | 621     | 487         |      | 513         | 252    | 4  |
| 13              | 161     | 553         | .98  | 785     | 005      |      | 651     | 548         |      | 452         | 187    | 4  |
| 14              | 189     | 612         | .97  | 729     | 002      | .03  | 682     | 609         |      | 391         |        |    |
| - 1             |         |             |      |         |          |      | 1       |             |      |             | 122    | 4  |
| 15              | 218     | 670         |      | 723     | 000      | .05  | 712     | 670         |      | 330         | 057    | 4  |
| 16              | 246     | 728         |      | 717     | 9.98997  |      | 743     | 731         |      | 269         | 4.5993 | 4  |
| 17              | 275     | 786         |      | 711     | 994      |      | 778     | 792         |      | 208         | 928    | 4  |
| 18              | 303     | 844         |      | 705     | 991      | .03  | 804     | 853         |      | 147         | 864    | 4  |
| 19              | 331     | 902         |      | 698     | 989      | .05  | 834     | 913         |      | 087         | 800    | 4  |
| 20              | .21 360 | 9.32 960    | .97  | .97 692 | 9.98 986 | .05  | 1       | 9.33 974    | 1.0  |             |        | 1  |
| $\frac{20}{21}$ |         | 9.33 018    |      | 686     | 983      | .uo  | .21 864 |             | 1.0  | 0.66 026    | 4.5736 | 4  |
|                 | 388     |             | .95  |         |          | 00   | 895     | 9.34 034    |      | 0.65 966    | 678    | 3  |
| 22              | 417     | 075         | .97  | 680     | 980      | .03  | 925     | 095         |      | 905         | 609    | 3  |
| 23              | 445     | 133         | .95  | 678     | 978      | .05  | 956     | 155         |      | 845         | 546    | 3  |
| 24              | 474     | 190         | .97  | 667     | 975      |      | 986     | 215         |      | 785         | 483    | 3  |
| 25              | 502     | 248         | .95  | 661     | 972      |      | .22 017 | 276         |      | 724         | 420    | 3  |
| 26              | 530     | 305         |      | 655     | 969      | .03  | 047     | 336         |      | 664         | 357    | 3  |
| 27              | 559     | 362         | .97  | 648     | 967      | .05  | 078     | 396         |      | 604         | 294    | 3  |
| 28              | 587     | 420         | .95  | 642     | 964      |      | 108     | 456         |      | 544         | 232    | 3  |
| 29              | 616     | 477         |      | 636     | 961      |      | 139     | 516         |      | 484         | 169    | 3  |
| - 1             |         |             |      |         |          |      | 1       |             |      |             |        | 1  |
| 30              | .21 644 | $9.33\ 534$ | .95  | .97 630 | 9.98 958 | .05  | .22 169 | $9.34\ 576$ | .98  | $0.65\ 424$ | 4.5107 | 3  |
| 31              | 672     | 591         | .93  | 623     | 955      | .03  | 200     | 635         | 1.0  | 365         | 045    | 2  |
| 32              | 701     | 647         | .95  | 617     | 953      | .05  | 231     | 695         |      | 305         | 4.4983 | 2  |
| 33              | 729     | 704         |      | 611     | 950      |      | 261     | 755         | .98  | 245         | 922    | 2  |
| 34              | 75S     | 761         |      | 604     | 947      |      | 292     | 814         | 1.0  | 186         | 860    | 2  |
| 35              | 786     | 818         | .93  | 598     | 944      |      | 322     | 874         | .98  | 126         | 799    | 2  |
| 36              | 814     | 874         | .95  | 592     | 941      |      | 353     | 933         |      | 067         | 787    | 2  |
| 37              | 843     | 931         | .93  | 585     | 938      | .03  | 383     | 992         |      | 008         | 676    | 2  |
| 38              | S71     | 987         | .50  | 579     | 936      | .05  | 414     | $9.35\ 051$ | 1.0  | 0.64949     |        |    |
| 39              |         |             | 0.5  | l       | 933      | .00  | 1       |             | 1.0  |             | 615    | 2  |
| 59              | 899     | 9.34 043    | .95  | 578     | 955      |      | 444     | 111         | .98  | 889         | 555    | 2  |
| 40              | .21 928 | $9.34\ 100$ | .93  | .97 566 | 9.98930  | .05  | .22 475 | $9.35\ 170$ | .98  | 0.64 830    | 4.4494 | 2  |
| 41              | 956     | 156         |      | 560     | 927      |      | 505.    | 229         |      | 771         | 434    | 1  |
| 42              | 985     | 212         |      | 553     | 924      |      | 536     | 288         |      | 712         | 373    | 1  |
| 43              | .22 013 | 268         |      | 547     | 921      | .03  | 567     | 347         | .97  | 653         | 313    | 1  |
| 44              | 041     | 324         |      | 541     | 919      | .05  | 597     | 405         | .98  | 595         | 253    | 1  |
| 45              |         | 380         |      | 534     | 916      |      |         | 464         |      |             |        |    |
| - 1             | 070     |             | 00   | 1       |          |      | 628     |             | 0=   | 536         | 194    | 1  |
| 46              | 098     | 436         | .92  | 528     | 913      |      | 658     | 523         | .97  | 477         | 184    | 1  |
| 47              | 126     | 491         | .93  | 521     | 910      |      | 689     | 581         | .98  | 419         | 075    | 1  |
| 48              | 155     | 547         | .92  | 515     | 907      |      | 719     | 640         | .97  | 360         | 015    | 1  |
| 49              | 183     | 602         | .93  | 508     | 904      |      | 750     | 698         | .98  | 302         | 4.8956 | 1  |
| 50              | .22 212 | 9.34 658    | .92  | .97 502 | 9.98 901 | .05  | .22 781 | 9.35757     | .97  | $0.64\ 243$ | 4.3897 | 1  |
| 51              | 240     | 713         | .93  | 496     | 898      | .03  | 811     | 815         |      | 185         | 838    |    |
| 52              | 265     | 769         | .92  | 459     | 896      | .05  | 842     | 873         |      | 127         | 779    |    |
| 53              | 297     | 824         |      | 453     | 893      |      | 872     | 931         |      | 069         | 721    |    |
| 54              | 325     | 879         |      | 476     | 890      |      | 903     | 989         |      | 011         | 662    |    |
| i               |         |             |      |         |          |      |         |             |      |             |        | Į. |
| 55              | 353     | 934         |      | 470     | 887      |      | 934     | 9.36 047    |      | 0.63953     | 604    |    |
| 56              | 352     | 989         |      | 463     | 884      |      | 964     | 105         |      | 895         | 546    |    |
| 57              | 410     | 9.35044     |      | 457     | 881      |      | 995     | 163         |      | 837         | 488    |    |
| 58              | 438     | 099         |      | 450     | 878      |      | .23 026 | 221         |      | 779         | 430    |    |
| 59              | 467     | 154         |      | 444     | 875      |      | 056     | 279         | .95  | 721         | 372    |    |
| 60              | .22 495 | $9.35\ 209$ |      | .97 437 | 9.98872  |      | .23 057 | $9.36\ 336$ |      | $0.63\ 664$ | 4.3315 |    |
|                 | Nat.    | Log.        | Dif. | Nat.    | Log.     | Dif. | Nat.    | Log.        | Dif. | Log.        | Nat,   | 77 |
| $02^{\circ}$    |         |             |      |         |          |      |         |             |      |             |        |    |

| 0'   .22<br>3   4   5   6   7   8   9   10   .22   11   12   13   14   15   16   17   18   19   20   .22   23   24   25   26   27   28   29   30   .23   31   32   33   34   35   36   37   38   39   40   42   43   44   42   43   44   42   43   44   44            | Nat.  22 495 528 552 580 608 637 665 693 722 750 22 778 807 835 863 892 920 948 977 23 005 083 23 062 090 118 146 175 208 231 260 288 316 28 345 373 401 429 458   | 9.35 209 263 318 373 427 481 536 590 644 698 9.35 752 806 914 968 9.36 022 075 129 182 236 9.36 289 342 395 449 502 555 608 660 713 766 9.36 819 871 924 976 9.37 028   | .90 .88 .90 .88 .90 .88 .88 .90 .88                                       | Nat.   .97 487   | 9.98 872 869 867 864 861 858 855 852 849 846 9.98 843 840 837 834 831 828 825 822 819 816 9.98 813 810 807 804 801 798 795 789 786 9.98 793 780 777   | .05<br>.03<br>.05 | Nat.  28 087 117 148 179 209 240 271 301 382 23 893 424 455 516 547 578 608 639 670 .28 700 781 762 798 823 854 855 916 946 977 .24 008  | Log.  9.36 336 394 452 509 566 624 681 738 795 852 9.36 909 966 9.37 023 080 137 193 250 306 363 419 9.37 476 532 588 644 700 756 812 868 924 980 9.38 035   | .97<br>.95<br>.95<br>.95<br>.95<br>.95<br>.93<br>.95<br>.93<br>.95<br>.93 | Log.  0.63 664 606 548 491 434 376 319 262 205 148 0.63 091 0.62 977 920 863 807 750 694 637 581 0.62 524 468 412 356 300 244 188 132 076 020 0.61 965  | Nat.  4.8315 257 200 143 086 029 4.2972 916 859 803 4.2747 691 685 580 524 468 413 358 248 4.2193 139 034 4.976 922 868 814 760 706 4.1658  | 16<br>66<br>58<br>55<br>56<br>56<br>56<br>57<br>56<br>57<br>56<br>57<br>56<br>48<br>41<br>44<br>44<br>44<br>44<br>44<br>44<br>44<br>43<br>38<br>38<br>38<br>38<br>38<br>38<br>38<br>38<br>38<br>3 |
|---|--|---|---|--|---|-------------------|--|--|---|---|---|---|
| 1 2 3 4 5 6 6 7 8 9 9 10 11 12 13 14 15 16 17 18 1.22 1 22 2 22 22 22 22 22 22 22 23 30 31 32 33 34 35 36 37 38 39 40 40 42 43 44 44 44 44 44 44 44 44 44 44 44 44  | 528 552 580 608 637 665 693 722 750 22 778 807 835 868 892 920 948 977 23 005 083 23 062 090 118 146 175 208 231 260 288 316 28 345 373 401 429 458  | 263 318 373 427 481 536 590 644 698 9.35 752 806 860 914 968 9.36 9.36 289 342 395 449 502 555 608 660 713 766 9.36 819 871 924 976 9.37 028  | .92<br>.90<br>.92<br>.90<br>.90<br>.88<br>.90<br>.88<br>.90<br>.88<br>.88 | 430<br>424<br>417<br>411<br>404<br>398<br>391<br>384<br>378<br>.97 371<br>365<br>358<br>351<br>345<br>318<br>325<br>318<br>321<br>.97 304<br>299<br>291<br>284<br>278<br>271<br>264<br>257<br>257<br>257<br>244<br>.97 237<br>230<br>223 | 869<br>867<br>864<br>861<br>858<br>855<br>852<br>849<br>846<br>9.98 843<br>828<br>825<br>822<br>819<br>816<br>9.98 813<br>810<br>807<br>804<br>801<br>798<br>795<br>792<br>789<br>786<br>9.98 793<br>786<br>777 | .05               | 117 148 179 209 240 271 301 382 363 .23 393 424 455 516 547 578 603 639 670 .23 700 .23 700 .24 08 823 854 885 916 946 977 .24 008   | 394<br>452<br>509<br>566<br>624<br>681<br>738<br>795<br>852<br>9.36 909<br>966<br>9.37 023<br>080<br>137<br>193<br>250<br>306<br>363<br>419<br>9.37 476<br>532<br>588<br>644<br>700<br>756<br>812<br>868<br>924<br>980<br>9.38 035 | .95<br>.97<br>.95<br>.95<br>.93<br>.95<br>.93<br>.95<br>.93               | 606 548 491 434 376 319 262 205 148 0.63 091 034 0.62 977 920 863 807 750 694 637 581 0.62 524 468 412 356 300 244 188 132 076 020  | 257<br>200<br>143<br>086<br>029<br>4.2972<br>916<br>859<br>803<br>4.2747<br>691<br>635<br>550<br>524<br>468<br>418<br>358<br>303<br>248<br>4.2193<br>139<br>084<br>030<br>4.1976<br>922<br>868<br>814<br>760<br>706 | 555<br>565<br>556<br>557<br>557<br>557<br>557<br>557<br>557<br>444<br>444<br>444<br>441<br>441<br>441<br>441<br>441<br>441<br>44  |
| 2 3 4 5 6 7 8 9 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 224 25 226 27 28 30 31 32 33 33 34 35 36 37 38 39 40 41 42 43 44 44 44 44 44 44 44 44 44 44 44 44   | 552<br>580<br>608<br>637<br>665<br>693<br>722<br>750<br>22 778<br>807<br>835<br>862<br>920<br>948<br>977<br>23 005<br>033<br>23 062<br>090<br>118<br>146<br>175<br>203<br>231<br>260<br>288<br>316<br>23 345<br>373<br>401<br>429<br>458 | 263 318 373 427 481 536 590 644 698 9.35 752 806 860 914 968 9.36 9.36 289 342 395 449 502 555 608 660 713 766 9.36 819 871 924 976 9.37 028  | .92<br>.90<br>.92<br>.90<br>.90<br>.88<br>.90<br>.88<br>.90<br>.88<br>.88 | 430<br>424<br>417<br>411<br>404<br>398<br>391<br>384<br>378<br>.97 371<br>365<br>358<br>351<br>345<br>318<br>325<br>318<br>321<br>.97 304<br>299<br>291<br>284<br>278<br>271<br>264<br>257<br>257<br>257<br>244<br>.97 237<br>230<br>223 | 869<br>867<br>864<br>861<br>858<br>855<br>852<br>849<br>846<br>9.98 843<br>828<br>825<br>822<br>819<br>816<br>9.98 813<br>810<br>807<br>804<br>801<br>798<br>795<br>792<br>789<br>786<br>9.98 793<br>786<br>777 | .05               | 117 148 179 209 240 271 301 382 363 .23 393 424 455 516 547 578 603 639 670 .23 700 .23 700 .24 08 823 854 885 916 946 977 .24 008   | 394<br>452<br>509<br>566<br>624<br>681<br>738<br>795<br>852<br>9.36 909<br>966<br>9.37 023<br>080<br>137<br>193<br>250<br>306<br>363<br>419<br>9.37 476<br>532<br>588<br>644<br>700<br>756<br>812<br>868<br>924<br>980<br>9.38 035 | .95<br>.97<br>.95<br>.95<br>.93<br>.95<br>.93<br>.95<br>.93               | 606 548 491 434 376 319 262 205 148 0.63 091 034 0.62 977 920 863 807 750 694 637 581 0.62 524 468 412 356 300 244 188 132 076 020  | 257<br>200<br>143<br>086<br>029<br>4.2972<br>916<br>859<br>803<br>4.2747<br>691<br>635<br>550<br>524<br>468<br>418<br>358<br>303<br>248<br>4.2193<br>139<br>084<br>030<br>4.1976<br>922<br>868<br>814<br>760<br>706 | 55<br>55<br>55<br>55<br>55<br>55<br>55<br>55<br>56<br>44<br>44<br>44<br>44<br>44<br>44<br>43<br>33<br>33<br>33<br>33<br>33<br>33  |
| 3 4 5 6 7 8 9 10 .2: 13 14 15 16 17 18 19 20 .2: 23 24 22 23 22 4 22 5 26 27 28 29 30 31 32 33 33 34 35 36 37 38 39 40 41 42 43 44 14 42 43 44  | 580<br>608<br>637<br>665<br>693<br>722<br>750<br>22 778<br>807<br>835<br>863<br>892<br>920<br>948<br>977<br>28 005<br>083<br>28 062<br>090<br>118<br>146<br>175<br>203<br>231<br>260<br>288<br>816<br>28 345<br>873<br>401<br>429<br>458 | 373 427 481 536 590 644 698 9.35 752 806 860 914 968 9.36 022 075 129 182 236 9.36 289 342 395 449 502 555 608 660 713 766 9.36 819 871 924 976 9.37 028  | .92<br>.90<br>.90<br>.88<br>.90<br>.88<br>.90<br>.88<br>.88<br>.90<br>.88 | 424<br>417<br>411<br>404<br>398<br>391<br>384<br>378<br>.97 371<br>365<br>358<br>351<br>345<br>388<br>381<br>325<br>318<br>311<br>.97 394<br>291<br>284<br>278<br>271<br>264<br>257<br>251<br>244<br>.97 287<br>280<br>223               | 867<br>864<br>861<br>858<br>855<br>849<br>846<br>9.98 843<br>840<br>837<br>834<br>828<br>825<br>822<br>819<br>816<br>9.98 813<br>810<br>807<br>798<br>795<br>792<br>789<br>786<br>9.98 793<br>780<br>777        | .05               | 148 179 209 240 271 3801 382 363 .23 393 424 455 516 547 578 603 639 670 .23 700 781 762 793 823 854 885 916 946 977 .24 008   | 452<br>509<br>566<br>624<br>681<br>738<br>795<br>852<br>9.36 909<br>966<br>9.37 023<br>080<br>137<br>193<br>250<br>363<br>419<br>9.37 476<br>532<br>588<br>644<br>700<br>756<br>812<br>868<br>924<br>980<br>9.38 035               | .95<br>.95<br>.95<br>.93<br>.95<br>.93<br>.95<br>.93                      | 548 491 434 376 319 262 205 148 0.63 091 034 0.62 977 750 863 807 7550 694 637 581 0.62 524 468 412 356 300 244 188 132 076 020   | 200 143 086 029 4.2972 916 859 803 4.2747 691 635 580 524 468 413 358 303 248 4.2193 034 030 4.1976 922 868 814 760 706   | 55<br>55<br>55<br>55<br>55<br>55<br>55<br>55<br>44<br>44<br>44<br>44<br>44<br>4   |
| 4 5 6 7 8 9 10 .25 11 12 13 14 15 16 17 18 .25 23 24 25 26 27 28 29 30 .23 33 34 35 36 37 38 39 40 .23 44 42 43 44 14 24 43 44  | 608 637 665 693 722 750 22 778 807 835 863 892 948 977 23 003 23 062 209 118 146 175 208 231 260 288 316 28 345 373 401 429 458  | 427 481 536 590 644 698 9.35 752 806 860 914 968 9.36 022 075 129 182 236 9.36 289 342 395 449 502 555 608 660 713 766 9.36 819 871 924 976 9.37 028  | .92<br>.90<br>.90<br>.88<br>.90<br>.88<br>.90<br>.88<br>.88<br>.90<br>.88 | 411<br>404<br>398<br>391<br>384<br>378<br>.97 371<br>365<br>358<br>351<br>345<br>388<br>381<br>325<br>318<br>311<br>.97 304<br>298<br>291<br>284<br>278<br>271<br>264<br>257<br>251<br>244<br>.97 237<br>230<br>223                      | 864<br>861<br>858<br>855<br>852<br>849<br>846<br>9.98 843<br>837<br>834<br>831<br>828<br>825<br>819<br>816<br>9.98 813<br>810<br>807<br>798<br>795<br>792<br>789<br>786<br>9.98 793<br>786                      | .05               | 179 209 240 271 301 382 363 424 455 485 516 547 578 608 639 670 .28 700 781 762 798 823 854 885 916 946 977 .24 008  | 509<br>566<br>624<br>681<br>738<br>795<br>852<br>9.36 909<br>966<br>9.37 023<br>080<br>137<br>193<br>250<br>306<br>363<br>419<br>9.37 476<br>532<br>588<br>644<br>700<br>756<br>812<br>868<br>924<br>980<br>9.38 035               | .95<br>.95<br>.95<br>.93<br>.95<br>.93<br>.95<br>.93                      | 491<br>434<br>376<br>319<br>262<br>205<br>148<br>0.63 091<br>0.34<br>0.62 977<br>920<br>863<br>807<br>750<br>694<br>637<br>581<br>0.62 524<br>468<br>412<br>356<br>300<br>244<br>188<br>132<br>076<br>020 | 143<br>086<br>029<br>4.2972<br>916<br>859<br>803<br>4.2747<br>691<br>635<br>580<br>524<br>468<br>413<br>358<br>303<br>248<br>4.2193<br>139<br>084<br>080<br>4.1976<br>922<br>863<br>814<br>760<br>706<br>4.1658     | 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5   |
| 5 6 7 8 9 10 .2: 11 11 12 13 14 15 16 17 18 .2: 19 20 .2: 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 42 44 44 44 44 44 44 44 44 44 44 44 44   | 637<br>665<br>693<br>722<br>750<br>22 778<br>807<br>835<br>863<br>892<br>948<br>977<br>23 003<br>23 062<br>090<br>118<br>146<br>175<br>203<br>231<br>260<br>288<br>816<br>28 845<br>873<br>401<br>429<br>458                             | 481<br>536<br>590<br>644<br>698<br>9.35 752<br>806<br>860<br>914<br>968<br>9.36 022<br>236<br>9.36 289<br>342<br>395<br>449<br>502<br>555<br>608<br>660<br>713<br>766<br>9.36 819<br>9.37 028   | .90<br>.90<br>.88<br>.90<br>.88<br>.90<br>.88<br>.88<br>.90<br>.88        | 404<br>398<br>391<br>384<br>378<br>.97 371<br>365<br>358<br>351<br>345<br>318<br>311<br>.97 304<br>298<br>291<br>254<br>273<br>271<br>264<br>257<br>251<br>244<br>.97 237<br>230<br>228  | 858<br>855<br>852<br>849<br>846<br>9.98 843<br>837<br>834<br>831<br>828<br>825<br>822<br>819<br>816<br>9.98 813<br>807<br>804<br>801<br>798<br>795<br>792<br>789<br>786   | .05               | 240<br>271<br>301<br>382<br>368<br>.23 393<br>424<br>455<br>516<br>547<br>578<br>603<br>670<br>.23 700<br>781<br>762<br>793<br>823<br>854<br>885<br>916<br>946<br>977              | 566 624 681 738 795 852 9.36 909 966 9.37 023 080 137 193 250 306 363 419 9.37 476 532 588 644 700 756 812 868 924 980 9.38 035  | .95<br>.95<br>.95<br>.93<br>.95<br>.93<br>.95                             | 434<br>376<br>319<br>262<br>205<br>148<br>0.63 091<br>0.62 977<br>920<br>863<br>807<br>750<br>694<br>637<br>581<br>0.62 524<br>468<br>412<br>356<br>300<br>244<br>188<br>132<br>076<br>020                | 086 029 4.2972 916 859 808 4.2747 691 635 580 524 468 418 358 303 248 4.2198 139 084 080 4.1976 922 868 814 760 706 4.1658  | 55<br>55<br>55<br>55<br>54<br>44<br>44<br>44<br>44<br>44<br>43<br>33<br>33<br>33<br>33<br>33<br>33<br>33  |
| 6 7 8 9 10 .2: 11 12 13 14 15 16 17 18 .2: 19 20 .2: 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 .2: 34 41 42 43 44 14 15   | 665 693 722 750 807 835 863 892 948 977 28 005 083 28 062 090 118 146 175 208 281 260 288 816 28 845 873 401 429 458   | 536<br>590<br>644<br>698<br>9.35 752<br>806<br>860<br>914<br>968<br>9.36 022<br>075<br>129<br>182<br>236<br>9.36 289<br>342<br>395<br>449<br>502<br>555<br>608<br>660<br>713<br>766<br>9.36 819<br>871<br>924<br>976<br>9.37 028                                    | .90<br>.90<br>.88<br>.90<br>.88<br>.90<br>.88<br>.88<br>.90<br>.88        | 398<br>391<br>384<br>378<br>.97 371<br>365<br>358<br>351<br>345<br>388<br>381<br>325<br>318<br>311<br>.97 304<br>291<br>284<br>273<br>271<br>264<br>257<br>251<br>244<br>.97 237<br>230<br>223   | 855<br>852<br>849<br>846<br>9.98 843<br>837<br>834<br>831<br>828<br>825<br>822<br>819<br>816<br>9.98 813<br>807<br>804<br>801<br>798<br>795<br>792<br>789<br>786<br>9.98 783<br>786                             | .05               | 271<br>301<br>382<br>363<br>.23<br>393<br>424<br>455<br>516<br>547<br>578<br>609<br>670<br>.28<br>700<br>781<br>762<br>798<br>823<br>854<br>885<br>916<br>946<br>977<br>.24<br>008 | 681<br>738<br>795<br>852<br>9.36 909<br>966<br>9.37 023<br>080<br>137<br>193<br>250<br>306<br>419<br>9.37 476<br>532<br>588<br>644<br>700<br>756<br>812<br>868<br>924<br>980<br>9.38 035   | .95<br>.93<br>.95<br>.93<br>.95<br>.93                                    | 376 319 262 205 148 0.63 091 0.62 977 920 863 807 750 694 637 581 0.62 524 468 412 356 300 244 188 132 076 020  | 029 4.2972 916 859 803 4.2747 691 635 580 524 468 413 358 308 3248 4.2198 139 084 080 4.1976 922 868 814 760 706 4.1658   | 55555555555555555555555555555555555555  |
| 7 8 9 10 .2: 11 11 12 13 14 15 16 17 18 1.22 22 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 40 42 44 44 44 44 44 44 44 44 44 44 44 44  | 665 693 722 750 807 835 863 892 948 977 28 005 083 28 062 090 118 146 175 208 281 260 288 816 28 845 873 401 429 458   | 536<br>590<br>644<br>698<br>9.35 752<br>806<br>860<br>914<br>968<br>9.36 022<br>075<br>129<br>182<br>236<br>9.36 289<br>342<br>395<br>449<br>502<br>555<br>608<br>660<br>713<br>766<br>9.36 819<br>871<br>924<br>976<br>9.37 028                                    | .90<br>.90<br>.88<br>.90<br>.88<br>.90<br>.88<br>.88<br>.90<br>.88        | 398<br>391<br>384<br>378<br>.97 371<br>365<br>358<br>351<br>345<br>388<br>381<br>325<br>318<br>311<br>.97 304<br>291<br>284<br>273<br>271<br>264<br>257<br>251<br>244<br>.97 237<br>230<br>223   | 855<br>852<br>849<br>846<br>9.98 843<br>837<br>834<br>831<br>828<br>825<br>822<br>819<br>816<br>9.98 813<br>807<br>804<br>801<br>798<br>795<br>792<br>789<br>786<br>9.98 783<br>786                             | .05               | 271<br>301<br>382<br>363<br>.23<br>393<br>424<br>455<br>516<br>547<br>578<br>609<br>670<br>.28<br>700<br>781<br>762<br>798<br>823<br>854<br>885<br>916<br>946<br>977<br>.24<br>008 | 681<br>738<br>795<br>852<br>9.36 909<br>966<br>9.37 023<br>080<br>137<br>193<br>250<br>306<br>419<br>9.37 476<br>532<br>588<br>644<br>700<br>756<br>812<br>868<br>924<br>980<br>9.38 035   | .95<br>.93<br>.95<br>.93<br>.95<br>.93                                    | 319<br>262<br>205<br>148<br>0.63 091<br>0.62 977<br>920<br>863<br>807<br>750<br>694<br>637<br>581<br>0.62 524<br>468<br>412<br>356<br>300<br>244<br>188<br>132<br>076<br>020                              | 4.2972<br>916<br>859<br>803<br>4.2747<br>691<br>625<br>580<br>524<br>468<br>413<br>358<br>303<br>248<br>4.2193<br>139<br>084<br>080<br>4.1976<br>922<br>868<br>814<br>760<br>706<br>4.1658                          | 55<br>55<br>55<br>54<br>44<br>44<br>44<br>44<br>44<br>43<br>33<br>33<br>33<br>33<br>33<br>33<br>33  |
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| 9   .23<br>10   .25<br>11   12<br>13   14   15<br>16   17<br>18   .28<br>19   .28<br>21   .28<br>22   .28<br>23   .28<br>24   .25<br>26   .27<br>27   .28<br>29   .28<br>30   .28<br>31   .36<br>37   .38<br>39   .40<br>40   .23<br>44   .24<br>44   .44<br>44   .44 | 722 750 22 778 807 835 868 892 920 948 977 23 005 083 23 062 118 146 175 208 281 260 288 816 28 345 873 401 429 458  | $\begin{array}{c} 644 \\ 698 \\ 9.35 \\ 752 \\ 806 \\ 860 \\ 914 \\ 968 \\ 9.36 \\ 022 \\ 075 \\ 129 \\ 182 \\ 236 \\ 9.36 \\ 289 \\ 342 \\ 395 \\ 449 \\ 502 \\ 555 \\ 608 \\ 660 \\ 713 \\ 766 \\ 9.36 \\ 819 \\ 871 \\ 924 \\ 976 \\ 9.37 \\ 028 \\ \end{array}$ | .90 .88 .90 .88 .90 .88 .88 .90 .88                                       | 384<br>378<br>.97 371<br>365<br>358<br>351<br>345<br>388<br>381<br>325<br>318<br>311<br>.97 304<br>299<br>291<br>284<br>278<br>271<br>264<br>257<br>257<br>244<br>.97 287<br>280<br>228  | 849<br>846<br>9.98 843<br>840<br>837<br>834<br>825<br>822<br>819<br>816<br>9.98 813<br>810<br>807<br>795<br>792<br>789<br>786<br>9.98 793<br>786<br>777   | .05               | 382<br>363<br>.23 393<br>424<br>.455<br>516<br>547<br>578<br>603<br>639<br>670<br>.23 700<br>.781<br>762<br>793<br>823<br>854<br>885<br>916<br>946<br>977                          | 795<br>852<br>9.36 909<br>966<br>9.37 023<br>080<br>137<br>193<br>250<br>306<br>363<br>419<br>9.37 476<br>532<br>588<br>644<br>700<br>756<br>812<br>868<br>924<br>980<br>9.38 035  | .93<br>.95<br>.98<br>.95<br>.93<br>.95<br>.93                             | 205<br>148<br>0.63 091<br>034<br>0.62 977<br>920<br>863<br>807<br>750<br>694<br>637<br>581<br>0.62 524<br>468<br>412<br>356<br>300<br>244<br>188<br>132<br>076  | \$59<br>\$03<br>4.2747<br>691<br>625<br>580<br>524<br>468<br>418<br>358<br>303<br>248<br>4.2193<br>034<br>039<br>4.1976<br>922<br>863<br>814<br>760<br>706  | 55<br>54<br>44<br>44<br>44<br>44<br>44<br>43<br>33<br>33<br>33<br>33<br>33<br>33<br>33  |
| 10  | 22 778<br>807<br>835<br>868<br>892<br>949<br>948<br>23 005<br>033<br>23 062<br>090<br>118<br>146<br>175<br>203<br>231<br>260<br>288<br>316<br>28 345<br>373<br>401<br>429<br>458   | 9.35 752<br>806<br>860<br>914<br>968<br>9.36 022<br>075<br>129<br>182<br>236<br>9.36 289<br>342<br>395<br>449<br>502<br>555<br>608<br>660<br>713<br>766<br>9.36 819<br>871<br>924<br>976<br>9.37 028  | .88<br>.90<br>.88<br>.90<br>.88<br>.88<br>.90<br>.88                      | 378 .97 371 .965 .958 .951 .945 .938 .931 .925 .918 .97 304 .291 .284 .278 .271 .264 .257 .251 .244 .97 287 .230 .223  | 846  9.98 843  840  837  834  831  828  825  822  819  816  9.98 813  810  807  798  795  792  789  786  9.98 793  786  777   | .05               | 368 .28 398 424 .455 485 516 547 578 608 670 .28 700 781 762 798 823 854 885 916 946 977 .24 008   | 9.36 909<br>966<br>9.37 023<br>080<br>137<br>193<br>250<br>306<br>363<br>419<br>9.37 476<br>532<br>588<br>644<br>700<br>756<br>812<br>868<br>924<br>980<br>9.38 035  | .93<br>.95<br>.98<br>.95<br>.93<br>.95<br>.93                             | $148 \\ 0.63 091 \\ 0.34 \\ 0.62 977 \\ 920 \\ 863 \\ 807 \\ 750 \\ 694 \\ 637 \\ 581 \\ 0.62 524 \\ 468 \\ 412 \\ 356 \\ 300 \\ 244 \\ 188 \\ 132 \\ 076 \\ 020 \\$                                      | \$03<br>4.2747<br>691<br>685<br>550<br>524<br>468<br>413<br>358<br>303<br>248<br>4.2193<br>034<br>030<br>4.1976<br>922<br>\$63<br>\$14<br>760<br>706<br>4.1658  | 5 5 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 3 3 3 3   |
| 11  | \$07<br>\$35<br>\$63<br>\$92<br>920<br>948<br>977<br>28 005<br>033<br>28 062<br>090<br>118<br>146<br>175<br>203<br>231<br>260<br>288<br>316<br>28 345<br>373<br>401<br>429<br>458  | 806<br>860<br>914<br>968<br>9.36 022<br>075<br>129<br>182<br>236<br>9.36 289<br>342<br>395<br>449<br>502<br>555<br>608<br>660<br>713<br>766<br>9.36 819<br>871<br>924<br>976<br>9.37 028  | .88<br>.90<br>.88<br>.90<br>.88<br>.88<br>.90<br>.88                      | 365<br>358<br>351<br>345<br>383<br>381<br>325<br>318<br>311<br>.97 304<br>298<br>291<br>284<br>278<br>271<br>264<br>257<br>251<br>244<br>.97 237<br>230<br>223   | 840<br>837<br>834<br>831<br>828<br>825<br>822<br>819<br>816<br>9.98 813<br>810<br>807<br>798<br>795<br>795<br>789<br>786<br>9.98 793<br>786   | .05               | 424<br>455<br>485<br>516<br>547<br>578<br>608<br>670<br>.23 700<br>731<br>762<br>793<br>823<br>854<br>855<br>916<br>946<br>977<br>.24 008  | 9.36 909<br>966<br>9.37 023<br>080<br>137<br>193<br>250<br>306<br>363<br>419<br>9.37 476<br>532<br>588<br>644<br>700<br>756<br>812<br>868<br>924<br>980<br>9.38 035  | .93<br>.95<br>.98<br>.95<br>.93<br>.95<br>.93                             | 0.63 091<br>034<br>0.62 977<br>920<br>863<br>807<br>750<br>694<br>637<br>581<br>0.62 524<br>468<br>412<br>356<br>300<br>244<br>188<br>132<br>076<br>020   | 4.2747<br>691<br>635<br>580<br>524<br>468<br>413<br>358<br>248<br>4.2198<br>139<br>084<br>080<br>4.1976<br>922<br>868<br>814<br>760<br>706  | 5 4 4 4 4 4 4 4 4 4 4 4 4 3 3 3 3 3 3 3   |
| 11  | \$07<br>\$35<br>\$63<br>\$92<br>920<br>948<br>977<br>28 005<br>033<br>28 062<br>090<br>118<br>146<br>175<br>203<br>231<br>260<br>288<br>316<br>28 345<br>373<br>401<br>429<br>458  | 806<br>860<br>914<br>968<br>9.36 022<br>075<br>129<br>182<br>236<br>9.36 289<br>342<br>395<br>449<br>502<br>555<br>608<br>660<br>713<br>766<br>9.36 819<br>871<br>924<br>976<br>9.37 028  | .88<br>.90<br>.88<br>.90<br>.88<br>.88<br>.90<br>.88                      | 365<br>358<br>351<br>345<br>383<br>381<br>325<br>318<br>311<br>.97 304<br>298<br>291<br>284<br>278<br>271<br>264<br>257<br>251<br>244<br>.97 237<br>230<br>223   | 840<br>837<br>834<br>831<br>828<br>825<br>822<br>819<br>816<br>9.98 813<br>810<br>807<br>798<br>795<br>795<br>789<br>786<br>9.98 793<br>786   | .05               | 424<br>455<br>485<br>516<br>547<br>578<br>608<br>670<br>.23 700<br>731<br>762<br>793<br>823<br>854<br>855<br>916<br>946<br>977<br>.24 008  | 9.37 023<br>080<br>137<br>193<br>250<br>306<br>363<br>419<br>9.37 476<br>532<br>588<br>644<br>700<br>756<br>812<br>868<br>924<br>980<br>9.38 035   | .93<br>.95<br>.98<br>.95<br>.93<br>.95<br>.93                             | 034<br>0.62 977<br>920<br>863<br>807<br>750<br>694<br>637<br>581<br>0.62 524<br>468<br>412<br>356<br>300<br>244<br>188<br>132<br>076<br>020   | 691<br>685<br>550<br>524<br>468<br>413<br>855<br>803<br>248<br>4.2193<br>034<br>030<br>4.1976<br>922<br>868<br>814<br>760<br>706  | 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4   |
| 12  | \$35<br>\$68<br>\$92<br>948<br>948<br>948<br>948<br>28 062<br>090<br>118<br>146<br>175<br>208<br>231<br>260<br>288<br>316<br>28 345<br>373<br>401<br>429<br>458  | 860<br>914<br>968<br>9.36 022<br>075<br>129<br>182<br>236<br>9.36 289<br>342<br>395<br>449<br>502<br>555<br>608<br>660<br>713<br>766<br>9.36 819<br>871<br>924<br>976<br>9.37 028   | .90<br>.88<br>.90<br>.88<br>.90<br>.88<br>.90<br>.88                      | 358<br>351<br>345<br>338<br>331<br>325<br>318<br>311<br>.97 304<br>293<br>291<br>284<br>273<br>271<br>264<br>257<br>251<br>244<br>.97 237<br>230<br>223  | 837<br>834<br>831<br>828<br>825<br>822<br>819<br>816<br>9.98 813<br>810<br>807<br>804<br>801<br>798<br>792<br>789<br>786<br>9.98 783<br>780<br>777  |                   | . 455<br>485<br>516<br>547<br>578<br>608<br>639<br>670<br>.28 700<br>781<br>762<br>798<br>823<br>854<br>885<br>916<br>946<br>977   | 9.37 023<br>080<br>137<br>193<br>250<br>306<br>363<br>419<br>9.37 476<br>532<br>588<br>644<br>700<br>756<br>812<br>868<br>924<br>980<br>9.38 035   | .95<br>.98<br>.95<br>.98<br>.95<br>.93                                    | 0.62 977<br>920<br>863<br>807<br>750<br>694<br>637<br>581<br>0.62 524<br>468<br>412<br>356<br>300<br>244<br>188<br>132<br>076<br>020  | 635<br>550<br>524<br>468<br>413<br>358<br>248<br>4.2193<br>139<br>084<br>080<br>4.1976<br>922<br>863<br>514<br>760<br>706   | 44444444444444443333333333333333333333  |
| 13 14 15 16 17 18 .22 19 20 .22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 .23 44 42 44 44 44 44   | \$68<br>\$92<br>948<br>977<br>28 005<br>088<br>28 062<br>090<br>118<br>146<br>175<br>208<br>231<br>260<br>288<br>316<br>28 345<br>373<br>401<br>429<br>458   | 9.36 022<br>075<br>129<br>182<br>236<br>9.36 289<br>342<br>395<br>449<br>502<br>555<br>608<br>660<br>713<br>766<br>9.36 819<br>871<br>924<br>976<br>9.37 028  | .90<br>.88<br>.90<br>.88<br>.90<br>.88<br>.90<br>.88                      | 351<br>345<br>388<br>381<br>325<br>318<br>311<br>.97 304<br>291<br>284<br>273<br>271<br>264<br>257<br>251<br>244<br>.97 287<br>230<br>228  | 834<br>831<br>828<br>825<br>822<br>819<br>816<br>9.98 813<br>810<br>807<br>804<br>801<br>798<br>795<br>792<br>789<br>786<br>9.98 783<br>780<br>777  |                   | 485<br>516<br>547<br>578<br>608<br>689<br>670<br>.28 700<br>781<br>762<br>798<br>823<br>854<br>885<br>916<br>946<br>977<br>.24 008   | 9.37 476<br>532<br>588<br>644<br>700<br>756<br>812<br>868<br>924<br>980<br>9.38 035  | .95<br>.98<br>.95<br>.98<br>.95<br>.93                                    | 920<br>,863<br>807<br>750<br>694<br>637<br>581<br>0.62 524<br>468<br>412<br>356<br>300<br>244<br>188<br>132<br>076<br>020   | 580<br>524<br>468<br>413<br>358<br>308<br>248<br>4.2193<br>139<br>084<br>080<br>4.1976<br>922<br>868<br>514<br>760<br>706   | 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4   |
| 14  | 920 948 977 23 005 083 062 090 118 146 175 208 281 260 288 316 28 345 373 401 429 458  | 968 9.36 022 075 129 182 236 9.36 289 342 395 449 502 555 608 660 713 766 9.36 819 871 924 976 9.37 028   | .90<br>.88<br>.90<br>.88<br>.90<br>.88<br>.90<br>.88                      | 345<br>338<br>381<br>325<br>318<br>311<br>.97 304<br>298<br>291<br>254<br>278<br>271<br>264<br>257<br>251<br>244<br>.97 287<br>230<br>228  | 831<br>828<br>825<br>822<br>819<br>816<br>9.98 813<br>810<br>807<br>804<br>801<br>798<br>795<br>792<br>789<br>786<br>9.98 783<br>780<br>777   |                   | 516<br>547<br>578<br>603<br>689<br>670<br>.28 700<br>781<br>762<br>798<br>823<br>854<br>885<br>916<br>946<br>977<br>.24 008  | 137<br>193<br>250<br>306<br>363<br>419<br>9.37 476<br>532<br>588<br>644<br>700<br>756<br>812<br>868<br>924<br>980<br>9.38 035  | .95<br>.98<br>.95<br>.98<br>.95<br>.93                                    | 863<br>807<br>750<br>694<br>637<br>581<br>0.62 524<br>468<br>412<br>356<br>300<br>244<br>188<br>132<br>076<br>020   | 524 468 418 355 303 248 4.2193 189 084 080 4.1976 922 868 \$114 760 706 4.1658  | 4:<br>4:<br>4:<br>4:<br>4:<br>4:<br>3:<br>3:<br>3:<br>3:<br>3:<br>3:<br>3:<br>3:<br>3:<br>3:<br>3:<br>3:<br>3:  |
| 16  | 948<br>977<br>23 005<br>083<br>23 062<br>090<br>118<br>146<br>175<br>208<br>281<br>260<br>288<br>816<br>28 345<br>873<br>401<br>429<br>458   | 9.36 022<br>075<br>129<br>182<br>236<br>9.36 289<br>342<br>395<br>449<br>502<br>555<br>608<br>660<br>713<br>766<br>9.36 819<br>871<br>924<br>976<br>9.37 028  | .90<br>.88<br>.90<br>.88<br>.90<br>.88<br>.90<br>.88                      | 338<br>331<br>325<br>318<br>311<br>.97 304<br>299<br>291<br>284<br>278<br>271<br>264<br>257<br>251<br>244<br>.97 287<br>230<br>223   | 828<br>825<br>822<br>819<br>816<br>9.98 813<br>810<br>807<br>804<br>801<br>798<br>795<br>792<br>789<br>786<br>9.98 793<br>780   |                   | 547<br>578<br>608<br>689<br>670<br>.28 700<br>781<br>762<br>798<br>823<br>854<br>855<br>916<br>946<br>977<br>.24 008   | 193<br>250<br>306<br>363<br>419<br>9.37 476<br>532<br>588<br>644<br>700<br>756<br>812<br>868<br>924<br>980<br>9.38 035   | .95<br>.98<br>.95<br>.98<br>.95<br>.93                                    | 807<br>750<br>694<br>637<br>581<br>0.62 524<br>468<br>412<br>356<br>300<br>244<br>188<br>132<br>076   | 468<br>413<br>358<br>303<br>248<br>4.2193<br>139<br>084<br>030<br>4.1976<br>922<br>868<br>814<br>760<br>706   | 41<br>41<br>41<br>42<br>42<br>43<br>33<br>34<br>34<br>33<br>34<br>33<br>33<br>33<br>34<br>33<br>33<br>33  |
| 16  | 948<br>977<br>23 005<br>083<br>23 062<br>090<br>118<br>146<br>175<br>208<br>281<br>260<br>288<br>816<br>28 345<br>873<br>401<br>429<br>458   | 075 129 182 236 9.36 289 342 395 449 502 555 608 660 713 766 9.36 819 871 924 976 9.37 028  | .90<br>.88<br>.90<br>.88<br>.90<br>.88<br>.90<br>.88                      | 381<br>325<br>318<br>311<br>.97 304<br>299<br>291<br>284<br>278<br>271<br>264<br>257<br>257<br>251<br>244<br>.97 287<br>230<br>228   | 825<br>822<br>819<br>816<br>9.98 813<br>810<br>807<br>804<br>801<br>798<br>795<br>792<br>789<br>786<br>9.98 793<br>780  |                   | 578<br>608<br>639<br>670<br>.23 700<br>781<br>762<br>793<br>823<br>854<br>885<br>916<br>946<br>977<br>.24 008  | 250<br>306<br>363<br>419<br>9.37 476<br>532<br>588<br>644<br>700<br>756<br>812<br>868<br>924<br>980<br>9.38 035  | .93<br>.95<br>.93<br>.95<br>.93   | $\begin{array}{c} 750 \\ 694 \\ 637 \\ 581 \\ 0.62\ 524 \\ 468 \\ 412 \\ 356 \\ 300 \\ 244 \\ 188 \\ 132 \\ 076 \\ 020 \\ \end{array}$  | 413<br>358<br>303<br>248<br>4.2193<br>139<br>084<br>080<br>4.1976<br>922<br>863<br>814<br>760<br>706  | 44:<br>44:<br>44:<br>44:<br>33:<br>34:<br>34:<br>34:<br>35:<br>36:<br>37:<br>38:<br>38:<br>38:<br>38:<br>38:<br>38:<br>38:<br>38:<br>38:<br>38  |
| 17  | 977 28 005 088 28 062 090 118 146 175 208 281 260 288 816 28 845 878 401 429 458   | $\begin{array}{c} 129 \\ 182 \\ 236 \\ 9.36 \\ 289 \\ 342 \\ 395 \\ 449 \\ 502 \\ 555 \\ 608 \\ 660 \\ 713 \\ 766 \\ 9.36 \\ 819 \\ 871 \\ 924 \\ 976 \\ 9.37 \\ 028 \\ \end{array}$  | .88<br>.90<br>.88<br>.88<br>.90<br>.88<br>.87<br>.88                      | 325<br>318<br>311<br>.97 304<br>299<br>291<br>254<br>278<br>271<br>264<br>257<br>257<br>251<br>244<br>.97 287<br>230<br>223  | 822<br>819<br>816<br>9.98 813<br>810<br>807<br>798<br>795<br>792<br>789<br>786<br>9.98 793<br>780   |                   | 608<br>689<br>670<br>.28 700<br>781<br>762<br>798<br>823<br>854<br>885<br>916<br>946<br>977<br>.24 008   | 306<br>363<br>419<br>9.37 476<br>532<br>588<br>644<br>700<br>756<br>812<br>868<br>924<br>980<br>9.38 035   | .95<br>.93<br>.95<br>.93  | 694<br>637<br>581<br>0.62 524<br>468<br>412<br>356<br>300<br>244<br>188<br>132<br>076<br>020  | 358<br>303<br>248<br>4.2193<br>139<br>034<br>030<br>4.1976<br>922<br>863<br>814<br>760<br>706   | 4:<br>4:<br>4:<br>4:<br>3:<br>3:<br>3:<br>3:<br>3:<br>3:<br>3:<br>3:<br>3:<br>3:<br>3:<br>3:<br>3:  |
| 18   .28<br>19   .28<br>20   .28<br>21   .22<br>22   .23<br>24   .25<br>26   .27<br>28   .29<br>30   .28<br>31   .35<br>33   .34<br>35   .36<br>37   .38<br>39   .40<br>40   .23<br>44   .41<br>44   .41  | 28 005<br>088<br>28 062<br>090<br>118<br>146<br>175<br>203<br>281<br>260<br>288<br>816<br>28 845<br>878<br>401<br>429<br>458   | $\begin{array}{c} 182 \\ 236 \\ \\ 9.36 \\ 289 \\ 342 \\ 395 \\ 502 \\ \\ 555 \\ 608 \\ 660 \\ 713 \\ 766 \\ \\ 9.36 \\ 819 \\ 871 \\ 924 \\ 976 \\ \\ 9.37 \\ 028 \\ \end{array}$  | .90<br>.88<br>.88<br>.90<br>.88<br>.87<br>.88                             | 318<br>311<br>.97 304<br>298<br>291<br>254<br>278<br>271<br>264<br>257<br>251<br>244<br>.97 237<br>230<br>223  | \$19<br>\$16<br>9.98 \$13<br>810<br>807<br>804<br>801<br>798<br>795<br>792<br>789<br>786<br>9.98 783<br>780<br>777  |                   | 689<br>670<br>.23 700<br>781<br>762<br>793<br>823<br>854<br>855<br>916<br>946<br>977<br>.24 008  | 363<br>419<br>9.37 476<br>532<br>588<br>644<br>700<br>756<br>812<br>868<br>924<br>980<br>9.38 035  | .93<br>.95<br>.93   | 637<br>581<br>0.62 524<br>468<br>412<br>356<br>300<br>244<br>188<br>132<br>076<br>020   | 303<br>248<br>4.2193<br>139<br>084<br>030<br>4.1976<br>922<br>868<br>814<br>760<br>706  | 4:<br>4:<br>4:<br>3:<br>3:<br>3:<br>3:<br>3:<br>3:<br>3:<br>3:<br>3:<br>3:<br>3:<br>3:<br>3:  |
| 19  | 088 28 062 090 118 146 175 208 281 260 288 816 28 845 878 401 429 458  | 236 9.36 289 342 395 449 502 555 608 660 713 766 9.36 819 871 924 976 9.37 028  | .88<br>.90<br>.88<br>.87<br>.88<br>.87                                    | 311<br>.97 304<br>298<br>291<br>284<br>278<br>271<br>264<br>257<br>251<br>244<br>.97 237<br>230<br>228   | 816<br>9.98 813<br>810<br>807<br>804<br>801<br>798<br>795<br>792<br>789<br>786<br>9.98 783<br>780<br>777  |                   | 670<br>.28 700<br>781<br>762<br>798<br>823<br>854<br>885<br>916<br>946<br>977<br>.24 008   | 9.37 476<br>532<br>588<br>644<br>700<br>756<br>812<br>868<br>924<br>980<br>9.38 035  | .95<br>.93  | 581<br>0.62 524<br>468<br>412<br>356<br>300<br>244<br>188<br>132<br>076<br>020  | 248 4.2198 139 084 030 4.1976 922 868 814 760 706   | 4.<br>4.<br>3.<br>3.<br>3.<br>3.<br>3.<br>3.<br>3.<br>3.<br>3.<br>3   |
| 20  | 23 062<br>090<br>118<br>146<br>175<br>203<br>231<br>260<br>288<br>316<br>23 345<br>373<br>401<br>429<br>458  | 9.36 289<br>342<br>395<br>449<br>502<br>555<br>608<br>660<br>713<br>766<br>9.36 819<br>871<br>924<br>976<br>9.37 028  | .88<br>.90<br>.88<br>.87<br>.88   | .97 304<br>298<br>291<br>284<br>278<br>271<br>264<br>257<br>251<br>244<br>.97 287<br>230<br>228  | 9.98 813<br>810<br>807<br>804<br>801<br>798<br>795<br>792<br>789<br>786<br>9.98 793<br>780  |                   | .23 700<br>731<br>762<br>793<br>823<br>854<br>885<br>916<br>946<br>977<br>.24 008  | 9.37 476<br>532<br>588<br>644<br>700<br>756<br>812<br>868<br>924<br>980<br>9.38 035  | .93   | 0.62524 $468$ $412$ $356$ $300$ $244$ $188$ $132$ $076$ $020$   | 4.2198<br>139<br>084<br>080<br>4.1976<br>922<br>868<br>814<br>760<br>706  | 34<br>33<br>34<br>35<br>34<br>33<br>35<br>35<br>36<br>37<br>37<br>38<br>38<br>38<br>38<br>38<br>38<br>38<br>38<br>38<br>38<br>38<br>38<br>38  |
| 21<br>22<br>23<br>24<br>25<br>26<br>27<br>28<br>29<br>30<br>31<br>32<br>33<br>34<br>35<br>36<br>37<br>38<br>39<br>40<br>41<br>42<br>43<br>44  | 090 118 146 175 208 231 260 288 316 23 345 373 401 429 458   | $\begin{array}{c} 342 \\ 395 \\ 449 \\ 502 \\ 555 \\ 608 \\ 660 \\ 713 \\ 766 \\ 9.36 \\ 819 \\ 871 \\ 924 \\ 976 \\ 9.37 \\ 028 \end{array}$   | .90<br>.88<br>.87<br>.88<br>.87   | 298<br>291<br>284<br>278<br>271<br>264<br>257<br>251<br>244<br>.97 287<br>230<br>228   | 810<br>807<br>804<br>801<br>798<br>795<br>792<br>789<br>786<br>9.98 783<br>780<br>777   |                   | 731<br>762<br>793<br>823<br>854<br>885<br>916<br>946<br>977<br>.24 008   | 532<br>588<br>644<br>700<br>756<br>812<br>868<br>924<br>980<br>9.38 035  | .92   | 468<br>412<br>356<br>300<br>244<br>188<br>132<br>076<br>020   | 139<br>084<br>030<br>4.1976<br>922<br>868<br>814<br>760<br>706  | 33<br>33<br>34<br>34<br>33<br>33<br>33<br>33  |
| 22 23 24 25 26 27 28 29 30 .23 31 32 33 34 35 36 37 38 39 40 41 42 43 44 .23  | 118<br>146<br>175<br>208<br>231<br>260<br>288<br>316<br>23 345<br>373<br>401<br>429<br>458   | 395<br>449<br>502<br>555<br>608<br>660<br>713<br>766<br>9.36 819<br>871<br>924<br>976<br>9.37 028   | .87<br>.88<br>.87   | 291<br>284<br>278<br>271<br>264<br>257<br>251<br>244<br>.97 287<br>280<br>228  | 807<br>804<br>801<br>798<br>795<br>792<br>789<br>786<br>9.98 793<br>780   | .95               | 762<br>798<br>823<br>854<br>885<br>916<br>946<br>977<br>.24 008  | 588<br>644<br>700<br>756<br>812<br>868<br>924<br>980<br>9.38 035   |   | 412<br>356<br>300<br>244<br>188<br>132<br>076<br>020  | 084<br>080<br>4.1976<br>922<br>868<br>814<br>760<br>706   | 38<br>39<br>38<br>34<br>38<br>39<br>30<br>30<br>30  |
| 23<br>24<br>25<br>26<br>27<br>28<br>29<br>30<br>31<br>32<br>33<br>34<br>35<br>36<br>37<br>38<br>39<br>40<br>41<br>42<br>43<br>44  | 146<br>175<br>208<br>231<br>260<br>288<br>816<br>23 345<br>873<br>401<br>429<br>458  | $\begin{array}{c} 449 \\ 502 \\ 555 \\ 608 \\ 660 \\ 713 \\ 766 \\ 9.36 \\ 819 \\ 871 \\ 924 \\ 976 \\ 9.37 \\ 028 \end{array}$   | .87<br>.88<br>.87   | 284<br>278<br>271<br>264<br>257<br>251<br>244<br>.97 287<br>280<br>228   | 804<br>801<br>798<br>795<br>792<br>789<br>786<br>9.98 793<br>780  | .95               | 798<br>823<br>854<br>885<br>916<br>946<br>977<br>.24 008   | 644<br>700<br>756<br>812<br>868<br>924<br>980<br>9.38 035  |   | 356<br>300<br>244<br>188<br>132<br>076<br>020   | 080 4.1976 922 868 814 760 706 4.1658   | 3'<br>36'<br>34'<br>33'<br>33'<br>33'<br>36'  |
| 24  | 208<br>231<br>260<br>288<br>316<br>23 345<br>373<br>401<br>429<br>458  | 502<br>555<br>608<br>660<br>713<br>766<br>9.36 819<br>871<br>924<br>976<br>9.37 028   | .87<br>.88<br>.87<br>.88  | 278<br>271<br>264<br>257<br>251<br>244<br>.97 287<br>230<br>228  | 801<br>798<br>795<br>792<br>789<br>786<br>9.98 793<br>780<br>777  | .95               | \$23<br>\$54<br>\$85<br>916<br>946<br>977<br>.24 008<br>039  | 700<br>756<br>812<br>868<br>924<br>980   |   | 300<br>244<br>188<br>132<br>076<br>020  | 4.1976<br>922<br>868<br>814<br>760<br>706<br>4.1658   | 3;<br>3;<br>3;<br>3;<br>3;<br>3;  |
| 25<br>26<br>27<br>28<br>30<br>31<br>32<br>33<br>34<br>35<br>36<br>37<br>38<br>39<br>40<br>41<br>42<br>43<br>44  | 203<br>231<br>260<br>288<br>316<br>23 345<br>373<br>401<br>429<br>458  | 555<br>608<br>660<br>713<br>766<br>9.36 819<br>871<br>924<br>976<br>9.37 028  | .88<br>.87<br>.88   | 271<br>264<br>257<br>251<br>244<br>.97 287<br>230<br>228   | 798<br>795<br>792<br>789<br>786<br>9.98 783<br>780<br>777   | .95               | \$54<br>\$85<br>916<br>946<br>977<br>.24 008<br>039  | 756<br>812<br>868<br>924<br>980<br>9.38 035  |   | 244<br>188<br>132<br>076<br>020   | 922<br>868<br>814<br>760<br>706<br>4.1658   | 3:<br>3:<br>3:<br>3:<br>3:  |
| 26 27 28 29 30 .28 31 32 33 34 35 36 37 38 39 40 .28 41 442 443 44  | 231<br>260<br>288<br>316<br>23 345<br>373<br>401<br>429<br>458   | $\begin{array}{c} 608 \\ 660 \\ 713 \\ 766 \\ 9.36 \ 819 \\ 871 \\ 924 \\ 976 \\ 9.37 \ 028 \\ \end{array}$   | .88<br>.87<br>.88   | 264<br>257<br>251<br>244<br>.97 287<br>280<br>223  | 795<br>792<br>789<br>786<br>9.98 783<br>780<br>777  | .95               | \$85<br>916<br>946<br>977<br>.24 008<br>089  | 812<br>868<br>924<br>980<br>9.38 035   |   | 188<br>132<br>076<br>020  | 868<br>814<br>760<br>706<br>4.1658  | 34<br>33<br>33<br>36  |
| 27<br>28<br>29<br>30<br>31<br>32<br>33<br>34<br>35<br>36<br>37<br>38<br>39<br>40<br>41<br>42<br>43<br>44  | 260<br>288<br>316<br>28 345<br>373<br>401<br>429<br>458  | 660<br>713<br>766<br>9.36 819<br>871<br>924<br>976<br>9.37 028  | .88<br>.87<br>.88   | 257<br>251<br>244<br>.97 287<br>230<br>228   | 792<br>789<br>786<br>9.98 783<br>780<br>777   | .95               | 916<br>946<br>977<br>.24 008<br>089  | $\begin{array}{c} 868 \\ 924 \\ 980 \\ 9.38 \ 035 \end{array}$   |   | $132 \\ 076 \\ 020$   | 814<br>760<br>706<br>4.1653   | 3:<br>3:<br>3:<br>3:  |
| 28 29 30 .23 31 32 33 34 35 36 37 38 39 40 .23 44 42 43 44  | 288<br>316<br>23 345<br>373<br>401<br>429<br>458   | 713<br>766<br>9.36 819<br>871<br>924<br>976<br>9.37 028   | .87<br>.88<br>.87   | 251<br>244<br>.97 237<br>230<br>223  | 789<br>786<br>9.98 783<br>780<br>777  | .95               | 946<br>977<br>.24 008<br>039   | 924<br>980<br>9.38 035   |   | $\begin{array}{c} 076 \\ 020 \end{array}$   | 760<br>706<br>4.1653  | 3:  |
| 29  | 316<br>23 345<br>373<br>401<br>429<br>458  | 766 9.36 819 871 924 976 9.37 028   | .ss<br>.s7  | .97 237<br>230<br>223  | 786<br>9.98 783<br>780<br>777   | .95               | 977<br>.24 008<br>039  | 980<br>9.38 035  |   | 020   | 706<br>4.1653   | 33  |
| 30 .23<br>31 32 33 34 35 36 37 38 39 40 .23<br>41 42 43 44  | 23 345<br>373<br>401<br>429<br>458   | $9.36819 \\ 871 \\ 924 \\ 976 \\ 9.37028$   | .ss<br>.s7  | .97 237<br>230<br>223  | 9.98 783<br>780<br>777  | .95               | .24 008<br>039   | 9.38 035   |   |   | 4.1653  | 30  |
| 31 32 33 34 35 36 37 38 39 40 .23 41 42 43 44   | 373<br>401<br>429<br>458   | $   \begin{array}{r}     871 \\     924 \\     976 \\     9.37    028   \end{array} $   | .ss<br>.s7  | 230<br>223   | 780<br>777  | .95               | 039  |  | .93   | $0.61\ 965$   |   |   |
| 32<br>33<br>34<br>35<br>36<br>37<br>38<br>39<br>40<br>41<br>42<br>43<br>44  | 401<br>429<br>458  | $924 \\ 976 \\ 9.37 \ 028$  | .87   | 223  | 777   |                   |  | 001  |   |   |   |   |
| 33<br>34<br>35<br>36<br>37<br>38<br>39<br>40<br>41<br>42<br>43<br>44  | 429<br>458   | $976 \\ 9.37 \ 028$   |   | 1  |   |                   |  | 091  |   | 909   | 600   |   |
| 34<br>35<br>36<br>37<br>38<br>39<br>40<br>41<br>42<br>43<br>44  | 458  | $9.37\ 028$   |   | 217  |   |                   | 069  | 147  | .92   | 853   | 547   | 28  |
| 35<br>36<br>37<br>38<br>39<br>40<br>41<br>42<br>43<br>44  |  |   |   |  | 774   |                   | 100  | 202  |   | 798   | 493   | 2'  |
| 36<br>37<br>38<br>39<br>40<br>41<br>42<br>43<br>44  | 486  | 081   | .88   | 210  | 771   |                   | 131  | 257  | .93   | 743   | 441   | 20  |
| 36<br>37<br>38<br>39<br>40<br>41<br>42<br>43<br>44  |  | 00.   | .87   | 203  | 768   |                   | 162  | 313  | .92   | 687   | 388   | 25  |
| 37<br>38<br>39<br>40<br>41<br>42<br>43<br>44  | 514  | 133   |   | 196  | 765   |                   | 193  | 368  | .02   | 632   | 335   | 24  |
| 39<br>40<br>41<br>42<br>43<br>44  | 542  | 185   |   | 189  | 762   |                   | 223  | 423  | .93   | 577   | 282   | 2   |
| 40<br>41<br>42<br>43<br>44  | 571  | 237   |   | 182  | 759   |                   | 254  | 479  | .92   | 521   | 230   | 2   |
| 41<br>42<br>43<br>44  | 599  | 289   |   | 176  | 756   |                   | 285  | 534  | •   | 466   | 178   | 2   |
| 41<br>42<br>43<br>44  | 23 627   | 9.37 341  | .87   | .97 169  | 9.98 753  | .05               | .24 316  | 9.38 589   | 00  |   | 4.1126  | 20  |
| 42<br>43<br>44  | 656  | 393   | .01   | 162  | 750   | .07               | 347  | 644  | .92   | $0.61\ 411$ $356$   |   | 19  |
| 43<br>44  | 684  | $\frac{333}{445}$   |   | 155  | 746   | .05               | 347  | 699  |   | 301   | $074 \\ 022$  | 18  |
| 44  | 712  | 497   |   | 148  | 743   | .00               | 408  | 754  | .90   | $\begin{array}{c} 301 \\ 246 \end{array}$   | 4.0970  | 1'  |
|   | 740  | 549   | .85   | 141  | 740   |                   | 439  | 808  | .92   | 192   | 918   | 10  |
|   |  |   |   | ĺ  |   |                   |  |  | .02   |   |   | ١ .   |
| 45  | 769  | 600   | .87   | 134  | 737   |                   | 470  | 863  | 00  | 137   | 867   | 18  |
| 46  | 797  | 652   | .85   | 127  | 734   |                   | 501  | 918  | .90   | 082   | 815   | 14  |
| 47  | 825  | 703<br>755  | .87   | 120  | $731 \\ 728$  |                   | 582  | 972  | .92   | 028   | 764   | 13  |
| 48<br>49  | 853  | 806   | .85   | 113  | 728   |                   | 562  | $9.39\ 027$  | no  | 0.60973   | 713   | 12  |
|   | 882  |   | .87   | 106  |   |                   | 593  | 082  | .90   | 918   | 662   | 11  |
|   | 23 910   | 9.37 858  | .85   | .97 100  | 9.98 722  | .05               | .24 624  | 9.39 136   | .90   | $0.60\ 864$   | 4.0611  | 10  |
| 51  | 938  | 909   |   | 093  | 719   | .07               | 655  | 190  | .92   | 810   | 560   |   |
| 52  | 966  | 960   |   | 086  | 715   | .05               | 686  | 245  | .90   | 755   | 509   | 8   |
| 53  | 995  | 9.38 011  |   | 079  | 712   |                   | 717  | 299  |   | 701   | 459   | 7   |
| 54 .24  | 24 023   | 062   |   | 072  | 709   |                   | 747  | 353  |   | 647   | 408   | •   |
| 55  | 051  | 113   |   | 065  | 706   |                   | 778  | 407  |   | 593   | 358   | 5   |
| 56  | 079  | 164   |   | 058  | 703   |                   | 809  | 461  |   | 539   | 308   | 4   |
| 57  | 108  | 215   |   | 051  | 700   |                   | 840  | 515  |   | 485   | 257   | 3   |
| 58  | 136  | 266   |   | 044  | 697   |                   | 871  | 569  |   | 431   | 207   | 2   |
| 59  | 164  | 317   |   | 037  | 694   | .07               | 902  | 623  |   | 377   | 158   | . 1   |
| 60 .24  | 24 192   | 9.38 368  |   | .97 030  | 9.98 690  |                   | .24 933  | 9.39 677   |   | 0.60 323  | 4.0108  | 0   |
| 03°   N   |  |   |   | Nat.   | Log.  | Dif.              | Nat.   | Log.   | Dif.  | Log.  | Nat.  | 76  |
| 00   -  | Nat.   | Log.  | Dif.  |  |   |                   |  |  |   |   | ENTS.   | (1)   |

| $14^{\circ}$ |         | SINES.       |      |         | Cosines.    |      | TAN     | GENTS.            |      | COTANG            | GENTS.      | 165 |
|--------------|---------|--------------|------|---------|-------------|------|---------|-------------------|------|-------------------|-------------|-----|
| 14           | Nat.    | Log.         | Dif. | Nat.    | Log.        | Dif. | Nat.    | Log.              | Dif. | Log.              | Nat.        | 100 |
| 0'           | .24 192 | 9.38 368     | .83  | .97 030 | 9.98 690    | .05  | .24 933 | 9.39 677          | .90  | 0.60 323          | 4.0108      | 60' |
| 1            | 220     | 418          | .85  | 023     | 687         | .00  | 964     | 731               | .50  | 269               | 058         | 59  |
| 2            | 249     | 469          | .83  | 015     | 684         |      | 995     | 785               | .88  | 215               | 009         | 58  |
| 3            | 277     | 519          | .85  | 008     | 681         |      | .25 026 | 838               | .90  | 162               | 8.9959      | 57  |
| 4            | 305     | 570          | .83  | 001     | 678         |      | 056     | 892               | .88  | 102               | 910         | 56  |
|              | 1       |              | .30  | 1       |             |      | 1       |                   |      |                   |             | 1   |
| 5            | 333     | 620          |      | .96 994 | 675         | .07  | 087     | 945               | .90  | 055               | 861         | 55  |
| 6            | 362     | 670          | .85  | 987     | 671         | .05  | 118     | 999               | .88  | 001               | 812         | 54  |
| 7            | 390     | 721          | .83  | 980     | 668         |      | 149     | $9.40\ 052$       | .90  | 0.59948           | 763         | 53  |
| 8            | 418     | 771          |      | 973     | 665         |      | 180     | 106               | .88  | 894               | 714         | 52  |
| 9            | 446     | 821          |      | 966     | 662         |      | 211     | 159               |      | 841               | 665         | 51  |
| 10           | .24 474 | 9.38 871     | .83  | .96 959 | 9.98 659    | .05  | .25 242 | $9.40\ 212$       | .90  | 0.59 788          | 8.9617      | 50  |
| 11           | 503     | 921          | .00  | 952     | 656         | .07  | 273     | 266               | .88  | 734               | 568         | 49  |
| 12           | 531     | 971          |      | 945     | 652         | .05  | 804     | 319               | .00  | 681               | 520         | 48  |
| 13           | 559     | 9.39 021     |      | 937     | 649         | .00  | 385     | 372               |      | 628               | 471         | 47  |
| 14           | 587     | 071          |      | 930     | 646         |      | 366     | $\frac{312}{425}$ |      | 575               | 423         | 46  |
|              | Ţ       |              |      |         |             |      |         |                   |      |                   |             | 1   |
| 15           | 615     | 121          | .82  | 923     | 643         |      | 397     | 478               |      | 522               | 375         | 45  |
| 16           | 644     | 170          | .83  | 916     | 640         | .07  | 428     | 531               |      | 469               | 327         | 44  |
| 17           | 672     | 220          |      | 909     | 636         | .05  | 459     | 584               | .87  | 416               | 279         | 43  |
| 18           | 700     | 270          | .82  | 902     | 633         |      | 490     | 636               | .ss  | 364               | 232         | 42  |
| 19           | 728     | 319          | .83  | 894     | 630         |      | 521     | 689               |      | 311               | 184         | 41  |
|              | İ       |              |      |         |             | 0.5  | i       |                   | 00   |                   |             |     |
| 20           | .24 756 | 9.39 369     | .82  | .96 887 | 9.98 627    | .07  | .25 552 | 9.40742           | .88  | 0.59 258          | 3.9136      | 40  |
| 21           | 784     | 418          |      | 880     | 623         | .05  | 583     | 795               | .87  | 205               | 089         | 39  |
| 22           | 813     | 467          | .83  | S73     | 620         |      | 614     | 847               | .88  | 153               | 042         | 38  |
| 23           | 841     | 517          | .82  | S66     | 617         |      | 645     | 900               | .87  | 100               | 3.8995      | 37  |
| 24           | 869     | 566          |      | 858     | 614         | .07  | 676     | 952               | .88  | 048               | 947         | 36  |
| 25           | 897     | 615          |      | 851     | 610         | .05  | 707     | 9.41 005          | .87  | 0.58 995          | 900         | 35  |
| 26           | 925     | 664          |      | 844     | 607         | •    | 738     | 057               |      | 943               | 854         | 34  |
| 27           | 954     | 713          |      | 837     | 604         |      | 769     | 109               |      | , 891             | 807         | 33  |
| 28           | 982     | 762          |      | 829     | 601         | .07  | 800     | 161               | .88  | 839               | 760         | 32  |
| 29           | 1       | 811          |      | 822     | 597         | .05  | S31     | 214               |      | 786               | 714         | 31  |
|              | .25 010 |              |      |         |             |      | 1       |                   | .87  |                   |             |     |
| 30           | .25 038 | 9.39860      | .82  | .96 815 | $9.98\ 594$ | .05  | .25 862 | $9.41\ 266$       | .87  | 0.58734           | 3.8667      | 30  |
| 31           | 066     | 909          |      | 807     | 591         |      | 893     | 318               |      | 682               | 621         | 29  |
| 32           | 094     | 958          | .80  | S00     | 588         | .07  | 924     | 370               |      | 630               | 575         | 28  |
| 33           | 122     | 9.40 006     | .82  | 793     | 584         | .05  | 955     | 422               |      | 578               | <b>52</b> S | 27  |
| 34           | 151     | 055          | .80  | 786     | 581         |      | 986     | 474               |      | 526               | 482         | 26  |
| 35           | 179     | 103          | .82  | 778     | 578         | .07  | .26 017 | 526               |      | 474               | 436         | 25  |
|              | 1       |              |      |         |             |      |         |                   | 0.5  | 422               |             | 24  |
| 36           | 207     | 152          | .80  | 771     | 574         | .05  | 048     | 578               | .S5  |                   | 391         |     |
| 37           | 235     | 200          | .82  | 764     | 571         |      | 079     | 629               | .87  | 371               | 345         | 23  |
| 38           | 263     | 249          | .80  | 756     | 568         |      | 110     | 681               |      | 319               | 299         | 22  |
| 39           | 291     | 297          | .82  | 749     | 565         | .07  | 141     | 733               | .85  | 267               | 254         | 2.1 |
| 40           | .25 320 | 9.40 346     | .80  | .96 742 | $9.98\ 561$ | .05  | .26 172 | 9.41784           | .87  | 0.58 216          | 3,8208      | 20  |
| 41           | 348     | 394          | •    | 734     | 558         | •    | 203     | 836               | .85  | 164               | 163         | 19  |
| 42           | 376     | 442          |      | 727     | 555         | .07  | 285     | 887               | .87  | 113               | 118         | 18  |
| 43           | 404     | 490          |      | 719     | 551         | .05  | 266     | 939               | .85  | 061               | 073         | 17  |
| 44           | 432     | 538          |      | 712     | 548         | .00  | 200     | 990               | .00  | 010               | 028         | 16  |
|              |         |              |      |         |             |      |         |                   |      |                   |             |     |
| 45           | 460     | 586          |      | 705     | 545         | .07  | 328     | 9.42041           | .87  | 0.57959           | 3,7983      | 15  |
| 46           | 455     | 634          |      | 697     | 541         | .05  | 359     | 093               | .85  | 907               | 938         | 14  |
| 47           | 516     | 682          |      | 690     | 538         |      | 390     | 144               |      | 856               | 893         | 13  |
| 48           | 545     | 730          |      | 682     | 535         | .07  | 421     | 195               |      | 805               | 848         | 12  |
| 49           | 573     | 778          | .78  | 675     | 531         | .05  | 452     | 246               |      | 754               | 804         | 11  |
|              |         |              |      | 1       |             |      |         |                   | ೧೫   |                   |             |     |
| 50           | .25 601 | 9,40 825     | .80  | .96 667 | 9.98 528    | .05  | .26 488 | $9.42\ 297$       | .85  | 0.57 703          | 3.7760      | 10  |
| 51           | 629     | 873          |      | 660     | 525         | .07  | 515     | 348               |      | 652               | 715         | 9   |
| 52           | 657     | 921          | .78  | 653     | 521         | .05  | 546     | 399               |      | 601               | 671         | 8   |
| 53           | 655     | 968          | .50  | 645     | 518         |      | 577     | 450               |      | 550               | 627         | 7   |
| 54           | 718     | $9.41 \ 016$ | .75  | 638     | 515         | .07  | 608     | 501               |      | 499               | 583         | 0   |
| 55           | 741     | 063          | .50  | 630     | 511         | .05  | 639     | 552               |      | 448               | 539         | 5   |
| 56           | 769     | 111          | .75  | 623     | 508         |      | 670     | 603               | .83  | 397               | 495         | 4   |
| 57           | 795     | 158          | •• / | 615     | 505         | .07  | 701     | 653               | .85  | 347               | 451         | 3   |
| 58           |         | 205          |      |         | 501         |      | 788     | 704               | .00  | 296               | 408         | 2   |
|              | 826     |              | gia. | 608     |             | .05  |         |                   | co   | $\frac{236}{245}$ |             | 1   |
| 59           | 854     | 252          | .50  | 600     | 498         | .07  | 764     | 755               | .83  |                   | 364         | 1   |
| 60           | .25 882 | 9.41 300     |      | .96 593 | 9,98 494    |      | .26 795 | $9.42\ 805$       |      | 0,57 195          | 3.7321      | 0   |
| 04°          | Nat.    | Log.         | Dif. | Nat.    | Log.        | Dif. | Nat.    | Log.              | Dif. | Log.              | Nat.        | 75  |
|              |         |              |      |         |             |      |         |                   |      |                   |             |     |

| 15°  | Nat.     | _                  | _    |         |             |      |         |                   |      |                   |            | 1 1 1 2 2 |
|------|----------|--------------------|------|---------|-------------|------|---------|-------------------|------|-------------------|------------|-----------|
|      | 1100.    | Log.               | Dif. | Nat.    | Log.        | Dif. | Nat.    | Log.              | Dif. | Log.              | Nat.       | 164       |
| 0'   | .25 882  | 9.41 300           | .78  | .96 593 | 9.98 494    | .05  | .26 795 | 9.42 805          | .85  | 0.57 195          | 3.7321     | 60        |
| 1    | 910      | 347                |      | 585     | 491         |      | 826     | 856               | .83  | 144               | 277        | 59        |
| 2    | 938      | 394                |      | 578     | 488         | .07  | 857     | 906               | .85  | 094               | 234        | 58        |
| 3    | 966      | 441                |      | 570     | 484         | .05  | 888     | 957               | .83  | 043               | 191        | 57        |
| 4    | 994      | 488                |      | 562     | 481         | .07  | 920     | $9.43\ 007$       |      | 0.56993           | 148        | 56        |
| 5    | .26 022  | 535                |      | - 555   | 477         | .05  | 951     | 057               | .85  | 943               | 105        | 55        |
| 6    | 050      | 582                | .77  | 547     | 474         |      | 982     | 108               | .83  | 892               | 062        | 54        |
| 7    | 079      | 628                | .78  | 540     | 471         | .07  | .27 013 | 158               |      | 842               | 019        | 53        |
| 8    | 107      | 675                |      | 532     | 467         | .05  | 044     | 208               |      | 792               | 3.6976     | 52        |
| 9    | 135      | 722                | .77  | 524     | 464         | .07  | 076     | 258               |      | 742               | 933        | 51        |
| 10   | .26 163  | 9.41768            | .78  | .96 517 | 9.98 460    | .05  | .27 107 | 9.43 308          | .83  | 0.56692           | 3.6891     | 50        |
| 11   | 191      | 815                | .77  | . 509   | 457         | .07  | 138     | 358               |      | 642               | 848        | 49        |
| 12   | 219      | 861                | .78  | 502     | 453         | .05  | 169     | 408               |      | 592               | 806        | 48        |
| 13   | 247      | 908                | .77  | 494     | 450         |      | 201     | 458               |      | $\bf 542$         | 764        | 47        |
| 14   | 275      | 954                | .78  | 486     | 447         | .07  | 232     | 508               |      | 492               | 722        | 46        |
| 15   | 303      | 9.42 001           | .77  | 479     | 443         | .05  | 263     | 558               | .82  | 442               | 680        | 45        |
| 16   | 331      | 047                |      | 471     | 440         | .07  | 294     | 607               | .83  | 393               | 638        | 44        |
| 17   | 359      | 093                | .78  | 463     | 436         | .05  | 326     | 657               |      | 343               | 596        | 43        |
| 18   | 387      | 140                | .77  | 456     | 433         | .07  | 357     | 707               | .82  | 293               | 554        | 42        |
| 19   | 415      | 186                |      | 448     | 429         | .65  | 388     | 756               | .83  | <b>244</b>        | 512        | 41        |
| 20   | .26 443  | 9.42 232           | .77  | .96 440 | 9.98 426    | .07  | .27 419 | 9.43 806          | .82  | 0.56 194          | 3.6470     | 40        |
| 21   | 471      | 278                | •••  | 433     | 422         | .05  | 451     | 855               | .83  | 145               | 429        | 39        |
| 22   | 500      | 324                |      | 425     | 419         | .07  | 482     | 905               | .82  | 095               | 387        | 38        |
| 23   | 528      | 370                |      | 417     | 415         | .05  | 513     | 954               | .83  | 046               | 346        | 37        |
| 24   | 556      | 416                | .75  | 410     | 412         |      | 545     | 9.44 004          | .82  | 0.55 996          | 305        | 36        |
| 25   | 584      | 461                | .77  | 402     | 409         | .07  | 576     | 053               |      | 947               | 264        | 35        |
| 26   | 612      | 507                |      | 394     | 405         | .05  | 607     | 102               |      | 898               | 204        | 34        |
| 27   | 640      | 553                |      | 386     | 402         | .07  | 638     | 151               | .83  | 849               | 181        | 33        |
| 28   | 668      | 599                | .75  | 379     | 398         | .05  | 670     | 201               | .82  | 799               | 140        | 32        |
| 29   | 696      | 644                | .77  | 371     | 395         | .07  | 701     | 250               | .02  | 750               | 100        | 31        |
|      |          |                    |      | Į.      |             |      | 1       |                   |      |                   |            |           |
| 30   | .26 724  | 9.42 690           | .75  | .96 363 | 9.98 391    | .05  | .27 732 | 9.44 299          | .82  | 0.55 701          | 3.6059     | 30        |
| 31   | 752      | 735                | .77  | 855     | 388         | .07  | 764     | 348               |      | 652               | 018        | 29        |
| 32   | 780      | 781                | .75  | 347     | 384         | .05  | 795     | $\frac{397}{446}$ |      | $\frac{603}{554}$ | 3.5978     | 28        |
| 33   | 808      | 826                | .77  | 840     | 381<br>377  | .07  | 826     | 495               |      | 505               | 937<br>897 | 27        |
| 34   | 836      | 872                | .75  | 332     |             |      | 858     |                   |      |                   |            | 1         |
| 35   | 864      | 917                |      | 324     | 373         | .05  | 889     | 544               | .80  | 456               | 856        | 25        |
| 36   | 892      | 962                | .77  | 316     | 370         | .07  | 921     | 592               | .82  |                   | 816        | 24        |
| 37 . | 920      | 9.43 008           | .75  | 308     | 366         | .05  | 952     | 641               |      | 359               | 776        | 23        |
| 38   | 948      | 053                |      | 301     | 363         | .07  | 983     | 690               | .80  | 310               | 736        | 25        |
| 39   | 976      | 098                |      | 293     | 359         | .05  | .28 015 | 738               | .82  | 262               | 696        | 2         |
| 40   | .27  004 | $9.43\ 143$        | .75  | .96 285 | $9.98\ 356$ | .07  | .28 046 | 9.44787           | .82  | $0.55\ 213$       | 3.5656     | 20        |
| 41   | 032      | 188                |      | 277     | 352         | .05  | 077     | 836               | .80  | 164               | 616        | 19        |
| 42   | 060      | 233                |      | 269     | 349         | .07  | 109     | 884               | .82  | 116               | 576        | 18        |
| 43   | 088      | 278                |      | 261     | 345         | .05  | 140     | 933               | .80  | 067               | 536        | 1'        |
| 44   | 116      | 323                | .73  | 253     | 342         | .07  | . 172   | 981               |      | 019               | 497        | 10        |
| 45   | 144      | 367                | .75  | 246     | 338         |      | 203     | 9.45 029          | .82  | 0.54971           | 457        | 15        |
| 46   | 172      | 412                |      | 238     | 334         | .05  | 234     | 078               | .80  | 922               | 418        | 14        |
| 47   | 200      | 457                |      | 230     | 331         | .07  | 266     | 126               |      | 874               | 379        | 13        |
| 48   | 228      | $\boldsymbol{502}$ | .73  | 222     | 327         | .05  | 297     | 174               |      | 826               | 339        | 1:        |
| 49   | 256      | 546                | .75  | 214     | 324         | .07  | 329     | 222               | .82  | 778               | 300        | 1         |
| 50   | .27 284  | 9.43 591           | .73  | .96 206 | 9.98 320    | .05  | .28 360 | $9.45\ 271$       | .80  | 0.54729           | 3.5261     | 10        |
| 51   | 312      | 635                | .75  | 198     | 317         | .07  | 391     | 319               |      | 681               | 222        |           |
| 52   | 340      | 680                | .73  | 190     | 313         |      | 423     |                   |      | 633               | 183        | 8         |
| 53   | 368      | 724                | .75  | 182     | 309         | .05  | 454     | 415               |      | 585               | 144        | 7         |
| 54   | 396      | 769                |      | 174     | 306         | .07  | 486     | 463               |      | 537               | 105        | (         |
| 55   | 424      | 813                |      | 166     | 302         | .05  | 517     | 511               |      | 489               | 067        | 5         |
| 56   | 452      | 857                |      | 158     | 299         | .07  | 549     | 559               | .78  | 441               | 028        | 4         |
| 57   | 480      | 901                | .75  | 150     | 295         |      | 580     | 606               | .80  | 394               | 3.4989     |           |
| 58   | 508      | 946                | .73  | 142     | 291         | .05  | 612     | 654               |      | 346               | 951        | 2         |
| 59   | 536      | 990                |      | 134     | 288         | .07  | 643     | 702               |      | 298               | 912        | 1         |
| 60   | .27 564  | 9.44 034           | •    | .96 126 | 9.98 284    |      | .28 675 | 9.45 750          |      | 0.54 250          | 3.4874     | (         |
| 105° | Nat.     | Log.               | Dif. | Nat.    | Log.        | Dif. | Nat.    | Log.              | Dif. | Log.              | Nat.       | 74        |
| 1170 |          |                    |      |         |             |      |         |                   |      | TANG              |            | 1 14      |

| $16^{\circ}$ |         | SINES.      |      |         | Cosines.         |       | TANG    | GENTS.      |      | COTANG      | ENTS.    | 163      |
|--------------|---------|-------------|------|---------|------------------|-------|---------|-------------|------|-------------|----------|----------|
| 10           | Nat.    | Log.        | Dif. | Nat.    | Log.             | Dif.  | Nat.    | Log.        | Dif. | Log.        | Nat.     | 100      |
| 0'           | .27 564 | 9.44 034    | .73  | .96 126 | 9.98 284         | .05   | .28 675 | 9.45 750    | .78  | 0.54 250    | 3,4874   | 60       |
| 1            | 592     | 078         |      | 118     | 281              | .07   | 706     | 797         | .80  | 203         | 836      | 59       |
| 2            | 620     | 122         |      | 110     | 277              | •••   | 738     | 845         | .78  | 155         | 798      | 58       |
| 3            | 648     | 166         |      | 102     | 273              | .05   | 769     | 892         | .80  | 108         | 760      | 57       |
| 4            | 676     | 210         | .72  | 094     | 270              | .07   | 801     | 940         | .78  | 060         | 722      | 56       |
|              | 1       |             |      |         |                  | .01   | 1       |             |      |             |          |          |
| 5            | 704     | 253         | .73  | 086     | 266              |       | 832     | 987         | .80  | 013         | 684      | 55       |
| 6            | 731     | 297         |      | 078     | 262              | .05   | 864     | $9.46\ 035$ | .78  | 0.53965     | 646      | 54       |
| 7            | 759     | 341         |      | 070     | 259              | .07   | 895     | 082         | .80  | 918         | 608      | 53       |
| 8            | 787     | 385         | .72  | 062     | 255              |       | 927     | 130         | .78  | 870         | 570      | 52       |
| 9            | 815     | 428         | .73  | 054     | 251              | .05   | 958     | 177         |      | 823         | 533      | 51       |
| 10           | .27 843 | $9.44\ 472$ | .73  | .96 046 | 9.98 248         | .07   | .28 990 | 9.46224     | .78  | 0.53 776    | 3.4495   | 50       |
| 11           | 871     | 516         | .72  | 037     | 244              | .01   | .29 021 | 271         | .80  | 729         | 458      | 49       |
|              | 899     | 559         | .13  | 029     | 244              | 05    | 053     | 319         | .78  | 681         | 420      | 48       |
| 12           | i       |             | tro  | 1       |                  | .05   |         |             | .15  |             |          | 1        |
| 13           | 927     | 602         | .73  | 021     | 237              | .07   | 084     | 366         |      | 634         | 383      | 4'       |
| 14           | 955     | 646         | .72  | 013     | 233              |       | 116     | 413         |      | 587         | 346      | 4        |
| 15           | 983     | 689         | .73  | 005     | 229              | .05   | 147     | 460         |      | 540         | 308      | 4        |
| 16           | .28 011 | 733         | .72  | .95 997 | 226              | .07   | 179     | 507         |      | 493         | 271      | 44       |
| 17           | 039     | 776         |      | 989     | 222              |       | 210     | 554         |      | 446         | 234      | 4:       |
| 18           | 067     | 819         |      | 981     | 218              | .05   | 242     | 601         |      | 399         | 197      | 4:       |
| 19           | 095     | 862         |      | 972     | . 215            | .07   | 274     | 648         | .77  | 352         | 160      | 4        |
|              |         |             |      |         |                  |       |         |             |      |             |          | 1        |
| 20           | .28 123 | 9.44 905    | .72  | .95 964 | $9.98\ 211$      | .07   | .29 305 | 9.46694     | .78  | $0.53\ 306$ | 3.4124   | 4        |
| 21           | 150     | 948         | .73  | 956     | 207              | .05   | 337     | 741         |      | 259         | 087      | 3        |
| 22           | 178     | 992         | .72  | 948     | 204              | .07   | 368     | 788         |      | 212         | 050      | 3        |
| 23           | 206     | 9.45 035    | .70  | 940     | 200              |       | 400     | 835         | .77  | 165         | 014      | 3        |
| 24           | 234     | 077         | .72  | 931     | 196              |       | 432     | 881         | .78  | 119         | 3.3977   | 3        |
|              |         |             |      |         |                  | 0.5   | 400     |             |      | 072         |          | 3        |
| 25           | 262     | 120         |      | 923     | 192              | .05   | 463     | 928         |      |             | 941      |          |
| 26           | 290     | 163         |      | 915     | 189              | .07   | 495     | 975         | .77  | 025         | 904      | 3.       |
| 27           | 318     | 206         |      | 907     | 185              |       | 526     | 9.47  021   | .78  | 0.52979     | 868      | 3.       |
| 28           | 346     | 249         |      | 898     | 181              |       | 558     | 068         | .77  | 932         | 832      | 3        |
| 29           | 374     | 292         | .70  | 890     | 177              | .05   | 590     | 114         |      | 886         | 796      | 3        |
| 30           | .28 402 | 9.45 334    | .72  | .95 882 | 9.98 174         | .07   | .29 621 | 9.47 160    | .78  | 0.52840     | 3.3759   | 3        |
| 31           | 429     | 377         | .70  | 874     | 170              |       | 653     | 207         | .77  | 793         | 723      | 2        |
| 32           | 1       | 419         |      | 865     | 166              |       | 685     | 253         |      | 747         | 687      | 2        |
|              | 457     | 462         |      | 1       | 162              | 0.5   | 716     | 299         | .78  | 701         | 652      | 2        |
| 33           | 485     |             | .70  | 857     |                  | .05   | 1       |             |      |             |          | 2        |
| 34           | 513     | 504         | .72  | 849     | 159              | .07   | 748     | 346         | .77  | 654         | 616      | ł        |
| 35           | 541     | 547         | .70  | 841     | 155              |       | 780     | 392         |      | 608         | 580      | 2        |
| 36           | 569     | 589         | .72  | 832     | 151              |       | 811     | 438         |      | 562         | 544      | 2        |
| 37           | 597     | 632         | .70  | 824     | 147              | .05   | 843     | 484         |      | 516         | 509      | 2        |
| 38           | 625     | 674         |      | 816     | 144              | .07   | 875     | 530         |      | 470         | 473      | 2        |
| 39           | 652     | 716         |      | 807     | 140              | • • • | 906     | 576         |      | 424         | 438      | 2        |
|              |         |             |      |         |                  |       |         |             |      |             |          | 1        |
| 40           | .28 680 | 9.45 758    | .72  | .95 799 | 9.98 136         | .07   | .29 938 | 9.47 622    | .77  | 0.52 378    | 3.3402   | 2        |
| 41           | 708     | 801         | .70  | 791     | 132              | .05   | 970     | 668         |      | 332         | 367      | 1        |
| 42           | 736     | 843         |      | 782     | 129              | .07   | .30 001 | 714         |      | 286         | 332      | 1        |
| 43           | 764     | 885         |      | 774     | 125              |       | 033     | 760         |      | 240         | 297      | 1        |
| 44           | 792     | 927         |      | 766     | 121              |       | 065     | 806         |      | 194         | 261      | 1        |
| 45           | 820     | 969         |      | 757     | 117              |       | 097     | 852         | .75  | 148         | 226      | 1        |
|              |         |             |      |         |                  | O.E.  | 1       | 897         |      | 148         |          |          |
| 46           | 847     | 9.46 011    |      | 749     | 113              | .05   | 128     |             | .77  |             | 191      | 1        |
| 47           | 875     | 053         |      | 740     | 110              | .07   | 160     | 943         |      | 057         | 156      | 1.       |
| 48           | 903     | 095         | .68  | 732     | 106              |       | 192     | 989         | _    | 011         | 122      | 1        |
| 49           | 931     | 136         | .70  | 724     | 102              |       | 224     | 9.48  035   | .75  | $0.51\ 965$ | 087      | 1        |
| 50           | .28 959 | 9,46 178    | .70  | .95 715 | 9.98 098         | .07   | .80 255 | 9.48 080    | .77  | 0.51 920    | 3.3052   | 1        |
| 51           | 997     | 220         |      | 707     | 094              |       | 287     | 126         | .75  | 874         | 017      | 1        |
| 52           | .29 015 | 262         | .68  | 698     | 090              | .05   | 319     | 171         | .77  | 829         | 3.2983   |          |
| 53           | 042     | 303         | .70  | 690     | 087              | .07   | 351     | 217         | .75  | 783         | 948      |          |
| 54           | 070     | 345         | .68  | 651     | 083              | .01   | 382     | 262         |      | 738         | 914      |          |
|              |         |             |      |         |                  |       |         |             |      |             |          |          |
| 55           | 098     | 386         | .70  | 673     | 079              |       | 414     | 307         | .77  | 693         | 879      |          |
| 56           | 126     | 428         | .68  | 664     | 075              |       | 446     | 353         | .75  | 647         | 845      |          |
| 57           | 154     | 469         | .70  | 656     | 071              |       | 478     | 398         |      | 602         | 811      |          |
| 58           | 182     | 511         | .65  | 647     | 067              |       | 509     | 443         | .77  | 557         | 777      | :        |
| 59           | 209     | 552         | .70  | 639     | 063              | .05   | 541     | 489         | .75  | 511         | 743      |          |
| 60           | .29 237 | 9.46 594    |      | .95 630 | 9.98 060         |       | .30 573 | 9.48 534    |      | 0.51 466    | 3.2709   |          |
| 00           | .29 231 | J.40 994    |      | 080 Gg. | <i>a.a</i> a 060 |       | .00 063 | P66 OF.0    |      | 0.01 400    | 0.2109   | <u> </u> |
| 06°          | Nat.    | Log.        | Dif. | Nat.    | Log.             | Dif.  | Nat.    | Log.        | Dif. | Log.        | Nat.     | 73       |
|              | 1       | Cosines.    |      |         | SINES.           |       | Cor     | ANGENTS.    |      | TANG        | TI NITTO | 1        |

| 17°        |            | SINES.                                    |      |            | Cosines.     |      | TANG    | ENTS.         |            | COTANG            | ENTS.         | $162^{\circ}$ |
|------------|------------|---|------|------------|--------------|------|---------|---------------|------------|-------------------|---------------|---------------|
| 1.         | Nat.       | Log.                                      | Dif. | Nat.       | Log.         | Dif. | Nat.    | Log.          | Dif.       | Log.              | Nat.          | 102           |
| 0'         | .29 237    | 9.46 594                                  | .68  | .95 630    | 9.98 060     | .07  | .30 573 | 9.48 534      | .75        | 0.51 466          | 3,2709        | 60'           |
| 1          | 265        | 635                                       |      | 622        | 056          |      | 605     | 579           |            | 421               | 675           | 59            |
| 2          | 293        | 676                                       |      | 613        | 052          |      | 637     | 624           |            | 376               | 641           | 58            |
| 3          | 321        | 717                                       |      | 605        | 048          |      | 669     | 669           |            | 331               | 607           | 57            |
| 4          | 348        | 758                                       | .70  | 596        | 044          |      | 700     | 714           |            | 286               | 573           | 56            |
| 5          | 376        | 800                                       | .68  | 588        | 040          |      | 782     | 759           |            | 241               | 539           | 55            |
| 6          | 404        | 841                                       |      | 579        | 036          |      | 764     | 804           |            | 196               | 506           | 54            |
| 7          | 432        | 882                                       |      | 571        | 032          | .05  | 796     | 849           |            | 151               | 472           | 53            |
| 8          | 460        | 923                                       |      | 562        | 029          | .07  | 828     | 894           |            | 106               | 438           | 52            |
| 9          | 487        | 964                                       |      | 554        | 025          |      | 860     | 939           |            | 061               | 405           | 51            |
| 10         | .29 515    | 9.47 005                                  | .67  | .95 545    | 9.98 021     | .07  | .30 891 | $9.48\ 984$   | .75        | $0.51\ 016$       | 3.2371        | 50            |
| 11         | 543        | 045                                       | .68  | 536        | 017          |      | 923     | 9.49 029      | .73        | 0.50971           | 338           | 49            |
| 12         | 571        | 086                                       |      | 528        | 013          |      | 955     | 073           | .75        | 927               | 305           | 48            |
| 13         | 599        | 127                                       |      | 519        | 009          |      | 987     | 118           |            | 882               | 272           | 47            |
| 14         | 626        | 168                                       |      | 511        | 005          |      | .31 019 | 163           | .73        | 837               | 238           | 46            |
| 15         | 654        | 209                                       | .67  | 502        | 001          |      | . 051   | 207           | .75        | 793               | 205           | 45            |
| 16         | 682        | $\frac{249}{249}$                         | .68  | 493        | 9.97 997     |      | 083     | . 252         | .73        | 748               | 172           | 44            |
| 17         | 710        | 290                                       | .67  | 485        | 993          |      | 115     | 296           | .75        | 704               | 139           | 43            |
| 18         | 787        | 330                                       | .68  | 476        | 989          | .05  | 147     | 341           | .73        | 659               | 106           | 42            |
| 19         | 765        | 371                                       | .67  | 467        | 986          | .07  | 178     | 385           | .75        | 615               | 073           | 41            |
|            |            |   |      | .95 459    | 9.97 982     | .07  | .31 210 | 9.49 430      | .73        | 0.50 570          | 3,2041        | 40            |
| 20         | .29 793    | 9.47 411                                  | .68  | 1          | 9.97 982     | .07  | 242     | 9.49430 $474$ | .13        | 526               | 3,2041<br>008 | 39            |
| 21         | 821        | $\begin{array}{c} 452 \\ 492 \end{array}$ | .67  | 450        | $978 \\ 974$ |      | 242     | 519           | .15<br>.78 | 481               | 3.1975        | 38            |
| 22         | 849        |   | .68  | 441        | 974          |      | 306     | 563           | .10        | 437               | 943           | 37            |
| 23         | 876<br>904 | 533<br>573                                | .67  | 433<br>424 | 966          |      | 338     | 607           | .75        | 393               | 910           | 36            |
| 24         |            |   |      |            |              |      |         |               |            |                   |               | ł             |
| 25         | 932        | 613                                       | .68  | 415        | 962          |      | 370     | 652           | .73        | 348               | 878           | 35            |
| 26         | 960        | 654                                       | .67  | 407        | 958          |      | 402     | 696           |            | 304               | 845           | 34            |
| 27         | 987        | 694                                       |      | 398        | 954          |      | 434     | 740           |            | 260               | 813           | 33            |
| 28         | .30 015    | 734                                       |      | 389        | 950          |      | 466     | 784           |            | 216               | 780           | 32            |
| 29         | 043        | 774                                       |      | 380        | 946          |      | 498     | 828           |            | 172               | 748           | 31            |
| 30         | .30 071    | 9.47 814                                  | .67  | .95 372    | 9.97942      | .07  | .31 530 | 9.49872       | .73        | $0.50\ 128$       | 3.1716        | 30            |
| 31         | 098        | 854                                       |      | 363        | 938          |      | 562     | 916           |            | 084               | 684           | 29            |
| 32         | 126        | 894                                       |      | 354        | 934          |      | 594     | 960           |            | 040               | 652           | 28            |
| 33         | 154        | 934                                       |      | 345        | 930          |      | 626     | $9.50\ 004$   |            | 0.49996           | 620           | 27            |
| 34         | 182        | 974                                       |      | 337        | 926          |      | 658     | 048           |            | 952               | 588           | 26            |
| 35         | 209        | 9.48 014                                  |      | 328        | 922          |      | 690     | 092           |            | 908               | 556           | 25            |
| 36         | 287        | 054                                       |      | 319        | 918          |      | 722     | 136           |            | 864               | 524           | 24            |
| 37         | 265        | . 094                                     | .65  | 310        | 914          |      | 754     | 180           | .72        | 820               | 492           | 23            |
| 38         | 292        | 133                                       | .67  | 301        | 910          |      | 786     | 223           | .73        | 777               | 460           | 22            |
| 39         | 320        | 173                                       | .01  | 293        | 906          |      | 818     | 267           |            | 733               | 429           | 21            |
|            | 1          | 9.48 213                                  | .65  | .95 284    | 9.97 902     | .07  | .31 850 | 9.50 311      | .73        | 0.49 689          | 3.1397        | 20            |
| 40         | .30 348    | $\frac{9.48}{252}$                        | .67  | 275        | 898          | .0.  | 882     | 355           | .72        | 645               | 366           | 19            |
| 41         | 376        | 292                                       | .01  | 266        | 894          |      | 914     | 398           | .73        | 602               | 334           | 18            |
| 42         | 403        | 332                                       | .65  | 257        | 890          |      | 946     | 442           | .72        | 558               | 303           | 17            |
| 43         | 431        | 371                                       | .67  | 248        | 886          |      | 978     | 485           | .73        | 515               | 271           | 16            |
| 44         | 459        |   |      | i          |              |      | 1       | 529           | .72        | 471               | 240           | 15            |
| 45         | 486        | 411                                       | .65  | 240        | 882          |      | .32 010 |               |            | 411               | 209           | 14            |
| 46         | 514        | 450                                       | .67  | 231        | 878          |      | 042     | 572           | .73        |                   |               | 13            |
| 47         | 542        | 490                                       | .65  | 222        | 874          |      | 074     | 616           | .72        | 384               | 178           | 12            |
| 48         | 570        | 529                                       |      | 213        | 870          |      | 106     | 659<br>703    | .73<br>79  | $\frac{341}{297}$ | 146<br>115    | 11            |
| 49         | 597        | 568                                       |      | 204        | 866          | .08  | 139     |               | .72        |                   |               | 1             |
| 50         | .30 625    | 9.48 607                                  | .67  | .95 195    | 9.97861      | .07  | .32 171 | 9.50 746      | .72        | 0.49 254          | 3.1084        | 10            |
| 51         | 658        | 647                                       | .65  | 186        | 857          |      | 203     | 789           | .78        | 211               | 053           | 9             |
| 52         | 680        | 686                                       |      | 177        | 853          |      | 235     | 833           | .72        | 167               | 022           | 8             |
| 53         | 708        | 725                                       |      | 168        | 849          |      | 267     | 876           |            | 124               | 3.0991        | 7             |
| 54         | 736        | 764                                       |      | 159        | 845          |      | 299     | 919           |            | 081               | 961           | 6             |
| 55         | 763        | 803                                       |      | 150        | 841          |      | 331     | 962           |            | 038               | 930           | 5             |
| 56         | 791        | 842                                       |      | 142        | 837          |      | 363     | $9.51\ 005$   |            | 0.48995           | 899           | 4             |
| 57         | 819        | 881                                       |      | 133        | 833          |      | 396     | 048           | .73        | 952               | 868           | 3             |
| 58         | 846        | 920                                       |      | 124        | 829          |      | 428     | 092           | .72        | 908               | 838           | 2             |
| <b>5</b> 9 | 874        | 959                                       |      | 115        | 825          |      | 460     | 135           |            | 865               | 807           | 1             |
| 60         | 1 .        | 9.48 998                                  |      | .95 106    | 9.97 821     |      | .32 492 | 9.51 178      |            | $0.48\ 822$       | 3.0777        | 0             |
| 00         | .30 902    | 9.40 998<br>                              |      | .50 100    | 0.01 021     |      | 1       |               |            |                   |               | 1             |
|            | Nat.       | Log.                                      | Dif. | Nat.       | Log.         | Dif. | Nat.    | Log.          | Dif.       | Log.              | Nat.          | 72            |
| 107°       | Nat.       | 8.  |      | 1          |              |      | 1       |               |            |                   | ENTS.         | 1 -           |

| 18°      |         | Sines.      |       |         | Cosines.    |      | TANG    | GENTS.       |               | Cotano      | GENTS. | 161   |
|----------|---------|-------------|-------|---------|-------------|------|---------|--------------|---------------|-------------|--------|-------|
|          | Nat.    | Log.        | Dif.  | Nat.    | Log.        | Dif. | Nat.    | Log.         | Dif.          | Log.        | Nat.   | 101   |
| 0'       | .30 902 | 9.48 998    | .65   | .95 106 | 9.97 821    | .07  | ,32 492 | 9.51 178     | .72           | 0.48 822    | 3.0777 | 60    |
| 1        | 929     | 9.49 037    | • ()  | 097     | 817         | .08  | 524     | 221          |               | 779         | 746    | 59    |
| 2        | 957     | 076         |       | oss     | 812         | .07  | 556     | 264          | .70           | 736         | 716    | 58    |
| 3        | 985     | 115         | .63   | 079     | 808         | .01  | 588     | 306          | .72           | 694         | 686    | 57    |
| 4        | .31 012 | 153         | .65   | 070     | 804         |      | 621     | 349          | .12           | 651         | 655    | 56    |
| - 1      |         |             | .(11) | 1       |             |      |         |              |               |             |        | 1     |
| 5        | 040     | 192         |       | 061     | 800         |      | 653     | 392          |               | 608         | 625    | 55    |
| 6        | 068     | 231         | .63   | 052     | 796         |      | 685     | 435          |               | 565         | 595    | 54    |
| 7        | 095     | 269         | .65   | 043     | 792         |      | 717     | 478          | .70           | 522         | 565    | 53    |
| 8        | 123     | 308         |       | 033     | 788         |      | 749     | 520          | .72           | 480         | 535    | 52    |
| 9        | 151     | 347         | .63   | 024     | 784         | .08  | 782     | 563          |               | 437         | 505    | 51    |
| 10       | .31 178 | 9,49 385    | .65   | .95 015 | 9.97 779    | .07  | .32 814 | 9.51 606     | .70           | 0.48 394    | 3,0475 | 50    |
| 11       | 206     | 424         | .63   | 006     | 775         |      | 846     | 648          | .72           | 352         | 445    | 49    |
| 12       | 233     | 462         | .(%)  | .94 997 | 771         |      | 878     | 691          | .12           | 309         | 415    | 48    |
| - 1      |         | 500         | 0.5   | 1       | 767         |      | 911     | 734          | <b>&gt;</b> 0 | 266         |        | 47    |
| 13       | 261     |             | .65   | 988     |             |      | 1       |              | .70           |             | 385    | 4(    |
| 14       | 289     | 539         | .63   | 979     | 763         |      | 943     | 776          | .72           | 224         | 856    | l     |
| 15       | 316     | 577         |       | 970     | 759         | .08  | 975     | 819          | .70           | 181         | 326    | 4:    |
| 16       | 344     | 615         | .65   | 961     | 754         | .07  | .33 007 | 861          |               | 139         | 296    | 44    |
| 17       | 372     | 654         | .63   | 952     | 750         |      | 040     | 903          | .72           | 097         | 267    | 43    |
| 18       | 399     | 692         |       | 943     | 746         |      | 072     | 946          | .70           | 054         | 237    | 4:    |
| 19       | 427     | 730         |       | 933     | 742         |      | 104     | 988          | .72           | 012         | 208    | 4     |
| 1        |         |             |       | l       |             |      |         |              |               |             |        | l     |
| 20       | .31 454 | 9.49 768    | .63   | .94 924 | 9.97 738    | .07  | .33 136 | 9.52 031     | .70           | 0.47 969    | 3.0178 | 40    |
| 21       | 482     | 806         |       | 915     | 734         | .08  | 169     | 073          |               | 927         | 149    | 39    |
| 22       | 510     | 844         |       | 906     | 729         | .07  | 201     | 115          |               | 885         | 120    | 38    |
| 23       | 537     | 882         |       | 897     | 725         |      | 233     | 157          | .72           | 843         | 090    | 3,    |
| 24       | 565     | 920         |       | 888     | 721         |      | 266     | 200          | .70           | 800         | 061    | 30    |
| 25       | 593     | 958         |       | 878     | 717         |      | 298     | 242          |               | 758         | 032    | 33    |
| 26       | 620     | 996         |       | 869     | 713         | .08  | 330     | 284          |               | 716         | 003    | 34    |
|          |         |             |       | ,       | 708         |      |         | 326          |               | 674         |        | 33    |
| 27       | 648     | 9.50 034    |       | S60     |             | .07  | 363     |              |               |             | 2.9974 | 1     |
| 28       | 675     | 072         |       | 851     | 704         |      | 395     | 368          |               | 632         | 945    | 3:    |
| 29       | 703     | 110         |       | \$42    | 700         |      | 427     | 41.0         |               | 590         | 916    | 3     |
| 30       | .31 730 | $9.50\ 148$ | .62   | .94 832 | 9.97 696    | .08  | .33 460 | $9.52\ 452$  | .70           | $0.47\ 548$ | 2.9887 | 30    |
| 31       | 758     | 185         | .63   | \$23    | 691         | .07  | 492     | 494          |               | 506         | 858    | 25    |
| 32       | 786     | 223         |       | 814     | 687         |      | 524     | 536          |               | 464         | 829    | 28    |
| 33       | 813     | 261         | .62   | 805     | 683         |      | 557     | 578          |               | 422         | 800    | 2'    |
| 34       | 541     | 298         | .63   | 795     | 679         | .08  | 589     | 620          | .68           | 380         | 772    | 20    |
| -        |         |             | .00   |         |             |      |         |              |               |             |        | 1     |
| 35       | 868     | 336         |       | 786     | 674         | .07  | 621     | 661          | .70           | 339         | 743    | 2     |
| 36       | S96     | 374         | .62   | 777     | 670         |      | 654     | 703          |               | 297         | 714    | 2     |
| 37       | 923     | 411         | .68   | 76S     | 666         |      | 686     | 745          |               | 255         | 686    | 23    |
| 38       | 951     | 449         | .62   | 758     | 662         | .08  | 718     | 787          |               | 213         | 657    | 2:    |
| 39       | 979     | 486         |       | 749     | 657         | .07  | 751     | 829          | .68           | 171         | 629    | 2     |
| 40       | .32 006 | 9.50 523    | .63   | .94 740 | 9.97 653    | .07  | .33 783 | 9.52870      | .70           | 0.47 130    | 2.9600 | 20    |
|          |         |             |       | 1       |             | .04  | I .     |              |               | 0.41 130    | 572    | 1     |
| 41       | 034     | 561         | .62   | 730     | 649         | 00   | 816     | 912          | .68           |             | 544    | 1     |
| 42       | 061     | 598         |       | 721     | 645         | .08  | 848     | 953          | .70           | 047         |        | 1     |
| 43       | 059     | 635         | .63   | 712     | 640         | .07  | SS1     | 995          | 4.            | 005         | 515    |       |
| 44       | 116     | 673         | .62   | 702     | 636         |      | 913     | $9.53 \ 037$ | .68           | 0.46 963    | 487    | 1     |
| 45       | 144     | 710         |       | 693     | 632         |      | 945     | 078          | .70           | 922         | 459    | 13    |
| 46       | 171     | 747         |       | 684     | 628         | .08  | 978     | 120          | .68           | 880         | 431    | 14    |
| 47       | 199     | 784         |       | 674     | 623         | .07  | .34 010 | 161          |               | 839         | 403    | 1:    |
| 48       | 227     | 821         |       | 665     | 619         |      | 043     | 202          | .70           | 798         | 375    | 1:    |
| 49       | 254     | 858         | .68   | 656     | 615         | .08  | 075     | 244          | .68           | 756         | 847    | 1     |
|          |         |             |       | 1       |             |      |         |              |               |             |        | l .   |
| 50       | .32 282 | 9.50896     | .62   | .94 646 | $9.97\ 610$ | .07  | .34 108 | $9.53\ 285$  | .70           | 0.46715     | 2.9319 | 1     |
| 51       | 309     | 933         |       | 637     | 606         |      | 140     | 327          | .68           | 673         | 291    |       |
| 52       | 337     | 970         |       | 627     | 602         | .08  | 173     | 368          |               | 632         | 263    |       |
| 53       | 364     | $9.51\ 007$ | .60   | 615     | 597         | .07  | 205     | 409          |               | 591         | 235    | ,     |
| 54       | 392     | 043         | .62   | 609     | 593         |      | 238     | 450          | .70           | . 550       | 208    |       |
|          |         | 080         |       | 599     | 589         | .08  | 270     | 492          | .68           | 508         | 180    |       |
| 55<br>50 | 419     |             |       |         |             |      | 1       |              | .05           | 467         | 150    |       |
| 56       | 447     | 117         |       | 590     | 584         | .07  | 303     | 533          |               |             |        |       |
| 57       | 474     | 154         |       | 580     | 580         |      | 335     | 574          |               | 426         | 125    |       |
| 58       | 502     | 191         | .60   | 571     | 576         | .08  | 368     | 615          |               | 385         | 097    |       |
| 59       | 529     | 227         | .62   | 561     | 571         | .07  | 400     | 656          |               | 344         | 070    |       |
| 60       | .32 557 | 9.51 264    |       | .94 552 | 9.97 567    |      | .34 433 | 9.53 697     |               | 0.46 303    | 2.9042 | 1     |
| 08°      | Nat.    | Log.        | Duf.  | Nat.    | Log.        | Dif. | Nat.    | Log.         | Dif.          | Log.        | Nat.   | 71    |
| 100      |         |             |       |         |             |      |         |              |               |             |        | 1 1 1 |

| 19°      |                | SINES.                       |            |                | Cosines.    |            | TAN            | GENTS.       |            | COTAN             | GENTS.     | 100     |
|----------|----------------|------------------------------|------------|----------------|-------------|------------|----------------|--------------|------------|-------------------|------------|---------|
|          | Nat.           | Log.                         | Dif.       | Nat,           | Log.        | Dif.       | Nat.           | Log.         | Dif.       | Log.              | Nat.       | 160     |
| 0'       | .82 557        | 9.51 264                     | .62        | .94 552        | 9.97 567    | .07        | .34 433        | 9.53 697     | .68        | 0.46 303          | 2,9042     | 60      |
| 1        | 584            | 301                          |            | 542            | 563         | .08        | 465            | 738          | •••        | 262               | 015        | 59      |
| 2        | 612            | 338                          | .60        | 583            | 558         | .07        | 498            | 779          |            | 221               | 2.8987     | 58      |
| 3        | 689            | 374                          | .62        | 523            | 554         |            | 530            | 820          |            | 180               | 960        | 57      |
| 4        | 667            | 411                          | .60        | 514            | 550         | .08        | 563            | 861          |            | 139               | 933        | 56      |
| 5        | 694            | 447                          | .62        | 504            | 545         | .07        | 596            | 902          |            | 098               | 905        | 55      |
| 6        | 722            | 484                          | .60        | 495            | 541         | .08        | 628            | 943          |            | 057               | 878        | 54      |
| 7        | 749            | 520                          | .62        | 485            | 536         | .07        | 661            | 984          |            | 016               | 851        | 53      |
| 8        | 777            | 557                          | .60        | 476            | 532         |            | 693            | 9.54 025     | .67        | 0.45975           | 824        | 52      |
| 9        | 804            | 593                          |            | 466            | 528         | .08        | 726            | 065          | .68        | 935               | 797        | 51      |
| 10       | .32 832        | 9.51 629                     | .62        | .94 457        | 9.97 523    | .07        | .34 758        | 9.54 106     | .68        | 0.45 894          | 2.8770     | 50      |
| 11       | 859            | 666                          | .60        | 447            | 519         |            | 791            | 147          | .67        | 853               | 743        | 49      |
| 12       | SS7            | 702                          |            | 438            | 515         | .08        | 824            | 187          | .68        | 813               | 716        | 48      |
| 13       | 914            | 738                          |            | 428            | 510         | .07        | 856            | 228          |            | 772               | 689        | 47      |
| 14       | 942            | 774                          | .62        | 418            | 506         | .08        | 889            | 269          | .67        | 731               | 662        | 46      |
| 15       | 969            | 811                          | .60        | 409            | 501         | .07        | 922            | 309          |            |                   |            |         |
| 16       | 997            | 847                          | •00        | 399            | 497         | .08        | 954            | 350          | .68<br>.67 | $691 \\ 650$      | 636        | 45      |
| 17       | .33 024        | 883                          |            | 390            | 492         | .07        | 987            | 390          | .68        | 610               | 609        | 44      |
| 18       | 051            | 919                          |            | 380            | 488         | •17•       | .35 020        | 431          | .67        | 569               | 582        | 48      |
| 19       | 079            | 955                          |            | 370            | 484         | .08        | 052            | 471          | .68        | 529               | 556<br>529 | 42      |
| 20       |                |                              | 20         | 1              |             |            | 1              |              |            |                   |            |         |
| 21       | .83 106<br>184 | 9.51 991<br>9.52 <b>02</b> 7 | .60        | .94 361<br>351 | 9.97479475  | .07        | .85 085        | 9.54 512     | .67        | 0.45 488          | 2.8502     | 40      |
| 22       | 161            |                              |            | 342            |             | .08        | 118            | 552          | .68        | 448               | 476        | 38      |
| 23       | 189            | 063<br>099                   |            | 332            | 470<br>466  | .07        | 150            | 593          | .67        | 407               | 449        | 38      |
| 24       | 216            | 135                          |            | 322            | 461         | .08<br>.07 | 183<br>216     | 633          | 40         | 367               | 423        | 37      |
|          |                |                              |            |                |             | .01        | 1              | 673          | .68        | 327               | 397        | 36      |
| 25       | 244            | 171                          |            | 313            | 457         |            | 248            | 714          | .67        | 286               | 370        | 36      |
| 26       | 271            | 207                          | .58        | 303            | 453         | .08        | 281            | 754          |            | 246               | 344        | 34      |
| 27       | 298            | 242                          | .60        | 293            | 448         | .07        | 314            | 794          | .68        | 206               | 318        | 38      |
| 28<br>29 | 326            | 278                          |            | 284            | 444         | .08        | 346            | 835          | .67        | 165               | 291        | 32      |
|          | 353            | 314                          |            | 274            | 439         | .07        | 379            | 875          |            | 125               | 265        | 31      |
| 30       | .33 381        | $9.52\ 350$                  | .58        | .94 264        | $9.97\ 435$ | .08        | .35 412        | $9.54 \ 915$ | .67        | 0.45 085          | 2.8239     | 30      |
| 31       | 408            | 385                          | .60        | 254            | . 430       | .07        | 445            | 955          |            | 045               | 213        | 29      |
| 32       | 436            | 421                          | .58        | 245            | 426         | .08        | 477            | 995          |            | 005               | 187        | 28      |
| 33       | 463            | 456                          | .60        | 235            | 421         | .07        | 510            | 9.55 035     |            | 0.44965           | 161        | 27      |
| 34       | 490            | 492                          | .58        | 225            | 417         | .08        | 543            | 075          | •          | 925               | 135        | 26      |
| 35       | 518            | 527                          | .60        | 215            | 412         | .07        | 576            | 115          |            | 885               | 109        | 25      |
| 36       | 545            | 563                          | .58        | 206            | - 408       | .08        | 608            | 155          |            | 845               | 083        | 24      |
| 37       | 573            | 598                          | .60        | 196            | 403         | .07        | 641            | 195          |            | 805               | 057        | 23      |
| 38       | 600            | 634                          | .58        | 186            | 399         | .08        | 674            | 235          |            | 765               | 032        | 22      |
| 39       | 627            | 669                          | .60        | 176            | 394         | .07        | 707            | 275          |            | 725               | 006        | 21      |
| 40       | .33 655        | 9.52705                      | .58        | .94 167        | 9.97 390    | .08        | .35 740        | 9.55 315     | .67        | 0.44 685          | 2.7980     | 20      |
| 41       | 682            | 740                          |            | 157            | 385         | .07        | 772            | 355          |            | 645               | 955        | 19      |
| 42       | 710            | 775                          | .60        | 147            | 381         | .08        | 805            | 395          | .65        | 605               | 929        | 18      |
| 43       | 737            | 811                          | .58        | 137            | 376         | .07        | 838            | 434          | .67        | 566               | 903        | 17      |
| 44       | 764            | 846                          |            | 127            | 372         | .08        | 871            | 474          |            | 526               | 878        | 16      |
| 45       | 792            | 881                          |            | 118            | 367         | .07        | 904            | 514          |            | 486               | 852        | 15      |
| 46       | 819            | 916                          |            | 108            | 363         | .08        | 937            | 554          | ,65        | 446               | 827        | 14      |
| 47       | 846            | 951.                         |            | 098            | 358         | •          | 969            | 593          | .67        | 407               | 801        | 13      |
| 48       | 874            | 986                          |            | 088            | 353         | .07        | .36 002        | 633          | • • •      | 367               | 776        | 12      |
| 49       | 901            | 9.53 021                     |            | 078            | 349         | .08        | 035            | 673          | .65        | 327               | 751        | 11      |
| 50       | .33 929        | 9.53 056                     | eo.        | .94 068        | 9.97 344    |            | i              | 9.55 712     |            |                   |            |         |
| 51       | 956            | 092                          | .60<br>.57 | 058            | 340         | .07<br>.08 | .36 068<br>101 | 752          | .67<br>.65 | $0.44 288 \\ 248$ | 2.7725     | 10<br>9 |
| 52       | 983            | 126                          | .58        | 049            | 335         | .05        | 101            | 791          | .67        | $\frac{248}{209}$ | 700        | 8       |
| 53       | .34 011        | 161                          | .00        | 039            | 331         | .08        | 167            | 831          | .65        | 169               | 675<br>650 | 7       |
| 54       | 038            | 196                          |            | 029            | 326         | .05        | 199            | 870          | .67        | 130               | 625        | 6       |
|          |                |                              |            |                |             |            |                |              |            |                   |            |         |
| 55       | 065            | 231                          |            | 019            | 322         | .08        | 282            | 910          | .65        | 090               | 600        | 5       |
| 56       | 093            | 266                          |            | 009            | 317         | o.=        | 265            | 949          | .67        | 051               | 575        | 4       |
| 57       | 120            | 301                          |            | .93 999        | 312         | .07        | 298            | 989          | .65        | 011               | 550        | 3       |
| 58       | 147            | 336                          | .57        | 989            | 308         | .08        | 331            | 9.56 028     | 0=         | 0.43 972          | 525        | 2       |
| 59       | 175            | 370                          | .58        | 979            | 303         | .07        | 364            | 067          | .67        | 933               | 500        | 1       |
| 60       | .34 202        | 9.53 405                     |            | .93 969        | 9.97 299    |            | .36 397        | 9.56 107     | r          | 0.43 893          | 2.7475     | 0       |
| 09°      | Nat.           | Log.                         | Dif.       | Nat.           | Log.        | Dif.       | Nat.           | Log.         | Dif.       | Log.              | Nat,       | 70      |
|          |                | Cosines.                     |            |                | SINES.      |            |                | NGENTS.      |            | TANGE             |            | • •     |



| $20^{\circ}$ |         | SINES.      | _    |         | Cosines.                                  |      | TAN     | GENTS.      |      | COTANG      | ENTS.  | 159 |
|--------------|---------|-------------|------|---------|---|------|---------|-------------|------|-------------|--------|-----|
| 20           | Nat.    | Log.        | Dif. | Nat.    | Log.                                      | Dif. | Nat.    | Log.        | Dif. | Log.        | Nat.   | 100 |
| 0'           | .84 202 | 9.53 405    | .58  | .98 969 | 9.97 299                                  | .08  | .36 397 | 9.56 107    | .65  | 0.43 893    | 2.7475 | 60  |
| 1            | 229     | 440         |      | 959     | 294                                       | •00  | 430     | 146         | .00  | 854         | 450    | 59  |
| 2            | 257     | 475         | .57  | 949     | 289                                       | .07  | 463     | 185         |      | 815         | 425    | 58  |
| 3            | 284     | 509         | .58  | 939     | 285                                       | .08  | 496     | 224         | .67  | 776         | 400    | 57  |
| 4            | 311     | 544         | .57  | 929     | 280                                       | .07  | 529     | 264         | .65  | 736         | 376    | 56  |
|              |         |             |      |         |   |      |         |             | .00  |             |        |     |
| 5            | 339     | 578         | .58  | 919     | 276                                       | .08  | 562     | 303         |      | 697         | 351    | 55  |
| 6            | 366     | 613         | .57  | 909     | 271                                       |      | 595     | 342         |      | 658         | 326    | 54  |
| 7            | 393     | 647         | .58  | 899     | 266                                       | .07  | 628     | 381         |      | 619         | 302    | 53  |
| 8            | 421     | 682         | .57  | 889     | 262                                       | .08  | 661     | 420         |      | 580         | 277    | 5 2 |
| 9            | 448     | 716         | .58  | 879     | 257                                       |      | 694     | 459         |      | 541         | 253    | 51  |
| 10           | .34 475 | $9.53\ 751$ | .57  | .93 869 | $9.97\ 252$                               | .07  | .36 727 | $9.56\ 498$ | .65  | $0.43\ 502$ | 2.7228 | 50  |
| 11           | 503     | 785         |      | 859     | 248                                       | .08  | 760     | 537         |      | 463         | 204    | 49  |
| 12           | 530     | 819         | .58  | 849     | 243                                       |      | 793     | 576         |      | 424         | 179    | 48  |
| 13           | 557     | 854         | .57  | 839     | 238                                       | .07  | 826     | 615         |      | 385         | 155    | 47  |
| 14           | 584     | 888         |      | 829     | 234                                       | .08  | 859     | 654         |      | 346         | 130    | 46  |
| 15           | 612     | 922         | .58  | 819     | 229                                       |      | 892     | 693         |      | 307         | 106    | 45  |
|              |         | 957         | .57  | 809     | $\begin{array}{c} 223 \\ 224 \end{array}$ | 07   | 925     | 732         |      | 268         | 082    | 44  |
| 16           | 639     |             | .01  | [       |   | .07  | 1       |             |      |             |        |     |
| 17           | 666     | 991         |      | 799     | 220                                       | .08  | 958     | 771         |      | 229         | 058    | 43  |
| 18           | 694     | 9.54 025    |      | 789     | 215                                       |      | 991     | 810         |      | 190         | 034    | 42  |
| 19           | 721     | 059         |      | 779     | 210                                       | .07  | .37 024 | 849         | .63  | 151         | 009    | 41  |
| 20           | .34 748 | 9.54 093    | .57  | .93 769 | $9.97\ 206$                               | .08  | .37 057 | 9.56887     | .65  | $0.43\ 113$ | 2.6985 | 40  |
| 21           | 775     | 127         |      | 759     | 201                                       |      | 090     | 926         |      | 074         | 961    | 39  |
| 22           | 803     | 161         |      | 748     | 196                                       | .07  | 123     | 965         |      | 035         | 937    | 38  |
| 23           | 830     | 195         |      | 738     | 192                                       | .08  | 157     | 9.57004     | .63  | 0.42996     | 913    | 37  |
| 24           | 857     | 229         |      | 728     | 187                                       |      | 190     | . 042       | .65  | 958         | 889    | 36  |
| 25           | 884     | 263         |      | 718     | 182                                       | .07  | 223     | 081         |      | 919         | 865    | 35  |
| 26           | 912     | 297         |      | 708     | 178                                       | .08  | 256     | 120         | .63  | 880         | 841    | 34  |
| 27           | 939     | 331         |      | 698     | 173                                       | .00  | 289     | 158         | .65  | 842         | 818    | 33  |
|              |         | 365         |      | 1       | 168                                       |      | 322     | 197         | .63  | 803         |        | 35  |
| 28           | 966     |             |      | 688     |   | 0.7  | 355     | 235         |      |             | 794    |     |
| 29           | 993     | 399         |      | 677     | 163                                       | .07  | 1       |             | .65  | 765         | 770    | 31  |
| 30           | .35 021 | 9.54433     | .55  | .93 667 | $9.97\ 159$                               | .08  | .37 388 | $9.57\ 274$ | .63  | 0.42726     | 2.6746 | 30  |
| 31           | 048     | 466         | .57  | 657     | 154                                       |      | 422     | 312         | .65  | 688         | 723    | 29  |
| 32           | 075     | 500         |      | 647     | 149                                       | .07  | 455     | 351         | .63  | 649         | 699    | 28  |
| 33           | 102     | 534         | .55  | 637     | 145                                       | .08  | 488     | 389         | .65  | 611         | 675    | 27  |
| 34           | 130     | 567         | .57  | 626     | 140                                       |      | 521     | 428         | .63  | 572         | 652    | 26  |
| - 1          |         | 601         |      | 010     | 135                                       |      | 554     | 466         |      | 534         | 628    | 25  |
| 35           | 157     |             |      | 616     |   |      | 588     | 504         | .65  | 496         | 605    | 24  |
| 36           | 184     | 635         | .55  | 606     | 130                                       | .07  | 1       | 543         |      |             |        |     |
| 37           | 211     | 668         | .57  | 596     | 126                                       | .08  | 621     |             | .63  | 457         | 581    | 23  |
| 38           | 239     | 702         | .55  | 585     | 121                                       |      | 654     | 581         | 0.5  | 419         | 558    | 22  |
| 39           | 266     | 735         | .57  | 575     | 116                                       |      | 687     | 619         | .65  | 381         | 534    | 21  |
| 40           | .35 293 | 9.54769     | .55  | .93 565 | $9.97\ 111$                               | .07  | .37 720 | 9.57658     | .63  | $0.42\ 342$ | 2.6511 | 20  |
| 41           | 320     | 802         | .57  | 555     | 107                                       | .08  | 754     | 696         |      | 304         | 488    | 18  |
| 42           | 347     | 836         | .55  | 544     | 102                                       |      | 787     | 734         |      | 266         | 464    | 18  |
| 43           | 375     | 869         | .57  | 534     | 097                                       |      | \$20    | 772         |      | 228         | 441    | 17  |
| 44           | 402     | 903         | .55  | 524     | 092                                       |      | \$53    | 810         | .65  | 190         | 418    | 16  |
|              |         |             |      |         |   | O.F  | 887     | 849         | .63  | 151         | 395    | 1   |
| 45           | 429     | 936         |      | 514     | 087                                       | .07  | 1       |             | .00  |             |        | 16  |
| 46           | 456     | 969         | .57  | 503     | 083                                       | .08  | 920     | 887<br>925  |      | 113         | 371    | 14  |
| 47           | 484     | 9.55 003    | .55  | 493     | 078                                       |      | 953     | 925         |      | 075         | 348    | 13  |
| 48           | 511     | 036         |      | 483     | 073                                       |      | 986     | 963         |      | 037         | 325    | 1:  |
| 49           | 538     | 069         |      | 472     | 068                                       |      | .38 020 | $9.58\ 001$ |      | 0.41 999    | 302    | 11  |
| 50           | .35 565 | $9.55\ 102$ | .57  | .93 462 | 9.97  063                                 | .07  | .38 053 | 9.58039     | .63  | $0.41\ 961$ | 2,6279 | 10  |
| 51           | 592     | 136         | .55  | 452     | 059                                       | .08  | 086     | 077         |      | 923         | 256    |     |
| 52           | 619     | 169         |      | 441     | 054                                       |      | 120     | 115         |      | 885         | 233    | 8   |
| 53           | 647     | 202         |      | 431     | 049                                       |      | 153     | 153         |      | 847         | 210    | }   |
| 54           | 674     | 235         |      | 420     | 044                                       |      | 186     | 191         |      | 809         | 187    |     |
|              |         |             |      |         |   | 0.00 |         |             |      |             |        |     |
| 55           | 701     | 268         |      | 410     | 039                                       | .07  | 220     | 229         | 40   | 771         | 165    |     |
| 56           | 728     | 301         |      | 400     | 035                                       | .08  | 253     | 267         | .62  | 733         | 142    | -   |
| 57           | 755     | 334         |      | 389     | 030                                       |      | 286     | 304         | .63  | 696         | 119    | 1   |
| 58           | 782     | 367         |      | 379     | 025                                       |      | 320     | 342         |      | 658         | 096    | :   |
| 59           | 810     | 400         |      | 368     | 020                                       |      | 353     | 380         |      | 620         | 074    | ]   |
| 60           | .85 837 | $9.55\ 433$ |      | .93 858 | 9.97 015                                  |      | .38 386 | 9.58 418    |      | $0.41\ 582$ | 2.6051 | (   |
|              | Nat.    | Log.        | Dif. | Nat.    | Log.                                      | Dif. | Nat.    | Log.        | Dif. | Log.        | Nat.   | 69  |
| $10^{\circ}$ | 41000   |             |      | 2.110   |   |      |         |             |      |             |        | 1   |

| $21^{\circ}$ |         | SINES.    |      | <u> </u> | Cosines. |      | TAN     | GENTS.            |      | Cotan             | GENTS. | 158      |
|--------------|---------|-----------|------|----------|----------|------|---------|-------------------|------|-------------------|--------|----------|
|              | Nat.    | Log.      | Dif. | Nat.     | Log.     | Dif. | Nat.    | Log.              | Dif. | Log.              | Nat.   | 130      |
| 0'           | .35 837 | 9.55 433  | .55  | .93 358  | 9.97 015 | .08  | .38 386 | 9.58 418          |      | 0.41.500          |        | <u> </u> |
| 1            | 864     | 466       | .00  | 848      | 010      | .00  | 420     | 455               | .62  | 0.41 582          | 2.6051 | 60       |
| 2            | 891     | 499       |      | 337      | 005      | .07  | 453     | 493               | .63  | 545               | 028    | 59       |
| 3            | 918     | 532       | .53  | 327      | 001      | .08  | 487     |                   |      | 507               | 006    | 58       |
| 4            | 945     | 564       | .55  | 316      | 9.96 996 | .05  |         | 531               |      | 469               | 2.5983 | 57       |
|              |         |           | .00  | 1        |          |      | 520     | 569               | .62  | 431               | 961    | 56       |
| 5            | 973     | 597       |      | 306      | 991      |      | 553     | 606               | .63  | 394               | 938    | 55       |
| 6            | .36 000 | 630       |      | 295      | 986      |      | 587     | 644               | .62  | 356               | 916    | 54       |
| 7            | 027     | 663       | .53  | 285      | 981      |      | 620     | 681               | .63  | 319               | 893    | 58       |
| 8            | 054     | 695       | .55  | 274      | 976      |      | 654     | 719               |      | 281               | 871    | 52       |
| 9            | 081     | 728       |      | 264      | 971      |      | 687     | 757               | .62  |                   | 848    | 5        |
| 10           | .86 108 | 9.55 761  | .53  | .93 253  | 9.96 966 | .07  | .38 721 | 9.58 794          | co   |                   |        | Į.       |
| 11           | 135     | 793       | .55  | 243      | 962      | .08  | 754     |                   | .63  | 0.41 206          | 2.5826 | 50       |
| 12           | 162     | 826       | .53  | 232      | 957      | .03  | 1       | 832               | .62  | 168               | 804    | 49       |
| 13           | 190     | 858       | .55  | 222      | 952      |      | 787     | 869               | .63  | 131               | 782    | 48       |
| 14           | 217     | 891       | .53  | 1        |          |      | 821     | 907               | .62  | 093               | 759    | 47       |
|              |         |           | .00  | 211      | 947      |      | 854     | 944               |      | 056               | 737    | 46       |
| 15           | 211     | 923       | .55  | 201      | 942      |      | 888     | 981               | .63  | 019               | 715    | 45       |
| 16           | 271     | 956       | .53  | 190      | 937      |      | 921     | 9.59019           | .62  | 0.40 981          | 693    | 44       |
| 17           | 298     | 988       | .55  | 180      | 932      |      | 955     | 056               | .63  | 944               | 671    | 43       |
| 18           | 325     | 9.56021   | .53  | 169      | 927      |      | 988     | 094               | .62  | 906               | 649    | 42       |
| 19           | 352     | 053       |      | 159      | 922      |      | .39 022 | 131               |      | 869               | 627    | 41       |
| 20           | .36 379 | 9.56 085  | **   | .93 148  |          | 00   | ł       |                   |      |                   |        |          |
| 21           | 406     | 118       | .55  | 1        | 9.96 917 | .08  | .39 055 | 9.59 168          | .62  | 0.40 832          | 2.5605 | 40       |
|              |         |           | .53  | 137      | 912      |      | 089     | 205               | .63  | 795               | 583    | 38       |
| 22           | 434     | 150       |      | 127      | 907      | .07  | 122     | 243               | .62  | 757               | 561    | 38       |
| 23           | 461     | 182       | .55  | 116      | 903      | .08  | 156     | 280               |      | 720               | 539    | 37       |
| 24           | 488     | 215       | .53  | 106      | 898      |      | 190     | 317               |      | 683               | 517    | 36       |
| 25           | 515     | 247       |      | 095      | 893      |      | 223     | 354               |      | 646               | 495    | 35       |
| 26           | 542     | 279       |      | 084      | 888      |      | 257     | 391               | .63  | 609               | 473    | 34       |
| 27           | 569     | 311       |      | 074      | 883      |      | 290     | 429               | .62  | 571               | 452    | 33       |
| 28           | 596     | 343       |      | 063      | 878      |      | 324     | 466               | .02  | 534               | 430    | 32       |
| 29           | 623     | 375       | .55  | 052      | 873      |      | 357     | 503               | ν.   | 497               | 408    | 31       |
|              |         |           |      |          |          |      | 1       |                   |      |                   |        | ļ        |
| 30           | .36 650 | 9.56 408  | .53  | .93 042  | 9.96 868 | .08  | .39 391 | $9.59\ 540$       | .62  | $0.40\ 460$       | 2.5386 | 30       |
| 31           | 677     | 440       |      | 031      | 863      |      | 425     | 577               |      | 423               | 365    | 29       |
| 32           | 704     | 472       |      | 020      | 858      |      | 458     | 614               |      | 386               | 843    | 28       |
| 33           | 731     | 504       |      | 010      | 853      |      | 492     | 651               |      | 349               | 322    | 27       |
| 34           | 758     | 536       |      | .92 999  | 848      |      | 526     | 688               |      | 312               | 300    | 26       |
| 35           | 785     | 568       | .52  | 988      | 843      |      | 559     | 725               |      | 275               | 279    | 25       |
| 36           | 812     | 599       | .53  | 978      | 838      |      | 598     | 762               |      | 238               | 257    | 24       |
| 37           | 839     | 631       |      | 967      | 833      |      | 626     | 799               | .60  | $\frac{233}{201}$ | 236    | 23       |
| 38           | 867     | 663       |      | 956      | 828      |      | 660     | 835               | .62  | . 165             | 214    | 22       |
| 39           | 894     | 695       |      | 945      | 823      |      | 694     | 872               | .02  | 128               | 193    | 21       |
|              |         |           |      |          |          |      |         |                   |      |                   |        | 1        |
| 40           | .36 921 | 9.56 727  | .53  | .92 935  | 9.96 818 | .08  | .39 727 | 9.59909           | .62  | $0.40\ 091$       | 2.5172 | 20       |
| 41           | 948     | 759       | .52  | 924      | 813      |      | 761     | 946               |      | 054               | 150    | 19       |
| 42           | 975     | 790       | .53  | 913      | 808      |      | 795     | 983               | .60  | 017               | 129    | 18       |
| 43           | .37 002 | 822       |      | 902      | 803      |      | 829     | $9.60\ 019$       | .62  | $0.39\ 981$       | 108    | 17       |
| 44           | 029     | $\bf 854$ |      | 892      | 798      |      | 862     | 056               |      | 944               | 086    | 16       |
| 45           | 056     | 886       | .52  | 881      | 793      |      | 896     | 093               |      | 907               | 065    | 15       |
| 46           | 083     | 917       | .53  | 870      | 788      |      | 930     | 130               | .60  | 870               | 044    | 14       |
| 47           | 110     | 949       | .52  | 859      | 783      |      | 963     | 166               | .62  | 834               | 023    | 13       |
| 48           | 137     | 980       | .53  | 849      | 778      | .10  | 997     | 203               | .02  | 797               | 023    | 12       |
| 49           | 164     | 9.57 012  | .00  | 838      | 772      | .08  | .40 031 | $\frac{203}{240}$ | βO   | 760               |        | 11       |
|              |         |           |      |          |          |      |         |                   | .60  |                   | 2.4981 |          |
| 50           | .37 191 | 9.57044   | .52  | .92 827  | 9.96767  | .08  | .40 065 | $9.60\ 276$       | .62  | 0.39724           | 2.4960 | 10       |
| 51           | 218     | 075       | .53  | 816      | 762      |      | 098     | 313               | .60  | 687               | 939    | 9        |
| 52           | 245     | 107       | .52  | 805      | 757      |      | 132     | 349               | .62  | 651               | 918    | 8        |
| 53           | 272     | 138       |      | 794      | 752      |      | 166     | 386               | .60  | 614               | 897    | 7        |
| 54           | 299     | 169       | .53  | 784      | 747      |      | 200     | 422               | .62  | 578               | 876    | 6        |
| 55           | 326     | 201       |      |          |          |      |         |                   |      |                   |        | 5        |
| 1            |         |           | .52  | 773      | 742      |      | 234     | 459               | .60  | 541<br>505        | 855    |          |
| 56           | 353     | 232       | .53  | 762      | 737      |      | 267     | 495               | .62  | 505               | 834    | 4        |
| 57           | 380     | 264       | .52  | 751      | 732      |      | 301     | 532               | .60  | 468               | 813    | 3        |
| 58           | 407     | 295       |      | 740      | 727      |      | 335     | 568               | .62  | 432               | 792    | 2        |
| 59           | 434     | 326       | .53  | 729      | 722      |      | 369     | 605               | .60  | 395               | 772    | 1        |
| 60           | .37 461 | 9.57 358  |      | .92 718  | 9.96 717 |      | .40 403 | 9.60 641          |      | 0.39 359          | 2.4751 | 0        |
| <u> </u>     | Nat.    | Log.      | Dif. | Nat.     | Log.     | Dif. | Nat.    | Log.              | Dif. | Log.              | Nat.   | 68       |
| 11°          | 2140.   | _ 0       |      |          |          |      |         |                   |      |                   |        |          |

| $22^{\circ}$    |         | SINES.      |      |         | Cosines.    |      | TAN     | GENTS.      |      | COTAN              | GENTS. | $15^{\circ}$ |
|-----------------|---------|-------------|------|---------|-------------|------|---------|-------------|------|--------------------|--------|--------------|
|                 | Nat.    | Log.        | Dif. | Nat.    | Log.        | Dif. | Nat.    | Log.        | Dif. | Log.               | Nat.   |              |
| 0'              | .37 461 | 9.57 358    | .52  | .92 718 | 9.96 717    | .10  | .40 403 | 9.60 641    | .60  | 0.39 359           | 2.4751 | 6            |
| 1               | 488     | 389         |      | 707     | 711         | .08  | 436     | 677         | .62  | 323                | 730    | 5            |
| 2               | 515     | 420         |      | 697     | 706         |      | 470     | 714         | .60  | 286                | 709    | 5.           |
| 3               | . 542   | 451         |      | 686     | 701         |      | 504     | . 750       |      | 250                | 689    | 5            |
| 4               | 569     | 482         | .53  | 675     | 696         |      | 538     | 786         | .62  | 214                | 668    | 5            |
|                 |         |             | .52  | 664     | 691         |      | 572     | 823         | .60  |                    |        |              |
| 5               | 595     | 514         | .02  | 1       |             |      | 1       |             | .00  | 177                | 648    | 5            |
| 6               | 622     | 545         |      | 658     | 686         |      | 606     | 859         |      | 141                | 627    | 5            |
| 7               | 649     | 576         |      | 642     | 681         | 4.0  | 640     | 895         |      | 105                | _ 606  | 5            |
| 8               | 676     | 607         |      | 631     | 676         | .10  | 674     | 931         |      | 069                | 586    | 5            |
| 9               | . 703   | 638         |      | 620     | 670         | .08  | 707     | 967         | .62  | 033                | 566    | 5            |
| 10              | .37 730 | 9.57 669    | .52  | .92 609 | 9.96 665    | .08  | .40 741 | 9.61 004    | .60  | 0.38 996           | 2.4545 | 5            |
| 11              | 757     | 700         |      | 598     | 660         |      | 775     | 040         |      | 960                | 525    | 4            |
| 12              | 784     | 731         |      | 587     | 655         |      | 809     | 076         |      | 924                | 504    | 4            |
| 13              | 811     | 762         |      | 576     | 650         |      | 843     | 112         |      | 888                | 484    | 4            |
| 14              | 838     | 793         |      | 565     | 645         |      | 977     | 148         |      | $\bf 852$          | 464    | 4            |
| 15              | 865     | 824         |      | 554     | 640         | .10  | 911     | 184         |      | 816                | 443    | 4            |
| 16              | 892     | 855         | .50  | 543     | 634         | .08  | 945     | 220         |      | 780                | 423    | 4            |
| 17              | 919     | 885         | .52  | 582     | 629         |      | 970     | 256         |      | 744                | 403    | 4            |
| 18              | 946     | 916         |      | 521     | 624         |      | .41 013 | 292         |      | 708                | 383    | 4            |
| 19              | 973     | 947         |      | 510     | 619         |      | 047     | 328         |      | 672                | 362    | 4            |
| 20              | .37 999 | 9.57 978    | .50  | .92 499 | 9.96 614    | .10  | .41 081 | 9.61 364    | .60  | 0.38 636           | 2.4342 | 4            |
| 21              | .38 026 | 9.58 008    | .52  | 488     | 608         | .08  | 115     | 400         |      | 600                | 322    | 3            |
| 22              | 053     | 039         | .02  | 477     | 603         | •00  | 149     | 436         |      | 564                | 302    | 3            |
| 23              | 080     | 070         |      | 466     | 598         |      | 183     | 472         |      | 528                | 282    | 3            |
| $\frac{23}{24}$ | 107     | 101         | .50  | 455     | <b>59</b> 3 |      | 217     | 508         |      | 492                | 262    | 3            |
|                 |         |             |      |         |             |      | 1       |             |      |                    |        |              |
| 25              | 134     | 131         | .52  | 444     | 588         | .10  | 251     | 544         | .58  | 456                | 242    | 3            |
| 26              | 161     | 162         | .50  | 432     | 582         | .08  | 285     | 579         | .60  | 421                | 222    | 3            |
| 27              | 188     | 192         | .52  | 421     | 577         |      | 319     | 615         |      | 385                | 202    | 3            |
| 28              | 215     | 223         | .50  | 410     | 572         |      | 353     | 651         |      | 349                | 182    | 3            |
| 29              | 241     | 253         | .52  | 399     | 567         |      | 387     | 687         | .58  | 313                | 162    | 3            |
| 30              | .38 268 | $9.58\ 284$ | .50  | .92 388 | $9.96\ 562$ | .10  | .41 421 | 9.61722     | ,60  | 0.38 278           | 2.4142 | 3            |
| 31              | 295     | 314         | .52  | 877     | 556         | .08  | 455     | 758         |      | 242                | 122    | 2            |
| 32              | 322     | 345         | .50  | 366     | 551         | •    | 490     | 794         |      | 206                | 102    | 2            |
| 33              | 349     | 375         | .52  | 355     | 546         |      | 524     | 830         | .58  | 170                | 083    | 2            |
| 34              | 376     | 406         | .50  | 343     | 541         | .10  | 558     | 865         | .60  | 135                | 063    | 2            |
|                 |         |             |      |         |             |      |         |             |      |                    |        | 1            |
| 35              | 403     | 436         | .52  | 332     | 535         | .08  | 592     | 901         | .58  | 099                | 043    | 2            |
| 36              | 430     | 467         | .50  | 321     | 530         |      | 626     | 936         | .60  | 064                | 023    | 2            |
| 37              | 456     | 497         |      | 310     | 525         |      | 660     | 972         |      | $\boldsymbol{028}$ | 004    | 2            |
| 38              | 483     | 527         |      | 299     | 520         | .10  | 694     | $9.62\ 008$ | .58  | 0.37992            | 2.3984 | 2            |
| 39              | 510     | 557         | .52  | 287     | 514         | .08  | 728     | 043         | .60  | 957                | 964    | · 2          |
| 40              | .35 537 | 9.58588     | .50  | .92 276 | 9.96509     | .08  | .41 763 | 9.62079     | .58  | 0.37921            | 2.3945 | 2            |
| 41              | 564     | 618         |      | 265     | 504         | .10  | 797     | 114         | .60  | 886                | 925    | 1            |
| 42              | 591     | 648         |      | 254     | 498         | .08  | S31     | 150         | .58  | 850                | 906    | li           |
| 43              | 617     | 678         | .52  | 243     | 493         |      | 865     | 185         | .60  | 815                | SS6    | 1            |
| 44              | 644     | 709         | .50  | 231     | 488         |      | 899     | 221         | .58  | 779                | S67    | 1            |
|                 |         |             | .00  | 1       |             |      | 1       |             |      |                    |        | 1            |
| 45              | 671     | 739         |      | 220     | 483         | .10  | 933     | 256         | .60  | 744                | 847    | 1            |
| 46              | 698     | 769         |      | 209     | 477         | .08  | 968     | 292         | .58  | 708                | 828    | 1            |
| 47              | 725     | 799         |      | 198     | 472         |      | .42 002 | 327         |      | 673                | . 808  | 1            |
| 48              | 752     | 829         |      | 156     | 467         | .10  | 036     | 362         | .60  | 638                | 789    | 1            |
| 49              | 778     | 859         |      | 175     | 461         | .08  | 070     | 398         | .58  | 602                | 770    | 1            |
| 50              | .35 505 | 9.58 889    | .50  | .92 164 | 9.96456     | .08  | .42 105 | $9.62\ 433$ | .58  | 0.37 567           | 2.8750 | 1            |
| 51              | 532     | 919         |      | 152     | 451         | .10  | 139     | 468         | .60  | 532                | 731    | ,            |
| 52              | 859     | 949         |      | 141     | 445         | .08  | 173     | 504         | .58  | 496                | 712    |              |
| 53              | 556     | 979         |      | 130     | 440         |      | 207     | 539         | **** | 461                | 693    |              |
| 54              | 912     | 9.59 009    |      | 119     | 435         | .10  | 242     | 574         |      | 426                | 673    |              |
|                 |         |             |      |         |             |      | 1       |             |      |                    |        |              |
| 55              | 939     | 039         |      | 107     | 429         | .08  | 276     | 609         | .60  | 391                | 654    |              |
| 56              | 966     | 069         | .48  | 096     | 424         |      | 310     | 645         | .58  | 355                | 635    |              |
| 57              | 993     | 098         | .50  | 085     | 419         | .10  | 345     | 680         |      | 320                | 616    |              |
| 58              | .39 020 | 128         |      | 073     | 413         | .08  | 379     | 715         |      | 285                | 597    |              |
| 59              | 046     | 158         |      | 062     | 408         |      | 413     | 750         |      | 250                | 578    |              |
| 60              | .39 073 | 9.59 188    |      | .92 050 | 9,96 403    |      | .42 447 | $9.62\ 785$ |      | 0.37 215           | 2,3559 |              |
| 12°             | Nat.    | Log.        | Dif. | Nat.    | Log.        | Dif. | Nat.    | Log.        | Dif. | Log.               | Nat.   | 6'           |
| شد              |         | Cosines.    |      |         | SINES.      |      | Сот     | ANGENTS.    |      | TANG               | ENTS.  | 0            |
|                 |         |             |      | 1       |             |      | 1       |             |      |                    |        |              |

| $23^{\circ}$ |                | Sines.            |      |          | Cosinés,        |      |                | GENTS.        |      | COTAN         | GENTS.        | 15  |
|--------------|----------------|-------------------|------|----------|-----------------|------|----------------|---------------|------|---------------|---------------|-----|
|              | Nat.           | Log.              | Dif. | Nat.     | Log.            | Dif. | Nat.           | Log.          | Dif. | Log.          | Nat.          | 13  |
| 0'           | .39 078        | 9.59 188          | .50  | .92 050  | 9.96 403        | .10  | .42 447        | 9.62 785      | .58  | 0.37 215      | 2,3559        | 60  |
| 1            | 100            | 218               | .48  | 039      | 397             | .08  | 482            | 820           | •••  | 180           | 539           | 59  |
| 2            | 127            | 247               | .50  | 028      | 392             |      | 516            | 855           |      | 145           | 520           | 58  |
| 3            | 153            | 277               |      | 016      | 387             | .10  | 551            | 890           | .60  | 110           | 501           | 5   |
| 4            | 180            | 307               | .48  | 005      | 381             | .08  | 585            | 926           | .58  | 074           | 483           | 56  |
| 5            | 207            | 336               | .50  | .91 994  | 376             | 10   | 1              |               | •••  |               |               | 1   |
| 6            | 284            | 366               | .00  | 982      | 370             |      | 619            | 961           |      | 039           | 464           | 5   |
| 7            | 260            | 396               | .48  | 1        |                 |      | 654            | 996           |      | 004           | 445           | 54  |
| 8            | 287            | $\frac{330}{425}$ |      | 971      | 365             |      | 688            | 9.63 031      |      | 0.36969       | 426           | 5   |
| 9            | 314            |                   | .50  | 959      | 360             |      | 722            | 066           |      | 934           | 407           | 5   |
|              |                | 455               | .48  | 948      | 354             | .08  | 757            | 101           | .57  | 899           | 388           | 5   |
| 10           | .39 341        | 9.59484           | .50  | .91 986  | $9.96\ 349$     | .10  | .42 791        | $9.63\ 135$   | .58  | $0.36\ 865$   | 2,3369        | 5   |
| 11           | 367            | 514               | .48  | 925      | 343             | .08  | 826            | 170           |      | 830           | 351           | 4:  |
| 12           | 394            | - 543             | .50  | 914      | 338             |      | 860            | 205           |      | 795           | 332           | 4   |
| 13           | 421            | 573               | .48  | 902      | 333             |      | 894            | 240           |      | 760           | 313           | 4   |
| 14           | 448            | 602               | .50  | 891      | 327             |      | 929            | 275           |      | 725           | 294           | 4   |
| 15           | 15.            |                   |      | 1        |                 |      | 1              |               |      |               |               |     |
|              | 474            | 632               | .48  | 879      | 322             |      | 963            | 310           |      | 690           | 276           | 4.  |
| 16           | 501            | 661               |      | 868      | 316             |      | 998            | 345           | .57  | 655           | 257           | 4   |
| 17           | 528            | 690               | .50  | 856      | 311             |      | .43 032        | 379           | .58  | 621           | 238           | 4   |
| 18           | 555            | 720               | .48  | 845      | 305             |      | 067            | 414           |      | 586           | 220           | 4   |
| 19           | 581            | 749               |      | 833      | 300             | .10  | 101            | 449           |      | 551           | 201           | 4   |
| 20           | .89 608        | 9.59778           | .50  | .91 822  | 9.96294         | .08  | .43 136        | 9.63 484      | .58  | 0.36 516      | 2.3183        | 4   |
| 21           | 635            | 808               | .48  | 810      | 289             |      | 170            | 519           | .57  | 481           | 2.5155<br>164 | 39  |
| 22           | 661            | 837               |      | 799      | 284             |      | 205            | 553           | .58  | 447           | 146           | 38  |
| 23           | 688            | 866               |      | 787      | 278             | .08  | 289            | 588           | .00  | 412           | 127           | 3   |
| 24           | 715            | 895               |      | 775      | 273             |      | 274            | 623           | .57  | 377           |               | 36  |
|              |                |                   |      | li .     |                 |      | 1              |               |      |               | 109           |     |
| 25           | 741            | 924               | .50  | 764      | 267             | .08  | 308            | 657           | .58  | 343           | 090           | 35  |
| 26           | 768            | 954               | .48  | 752      | 262             | .10  | 343            | 692           | .57  | 308           | 072           | 34  |
| 27           | 795            | 983               |      | 741      | 256             | .08  | 378            | 726           | .58  | 274           | 053           | 33  |
| 28           | 822            | $9.60\ 012$       |      | 729      | 251             | .10  | 412            | 761           |      | . 239         | 035           | 3:  |
| 29           | 848            | 041               |      | 718      | 245             | .08  | 447            | 796           | .57  | 204           | 017           | 3   |
| 30           | .39 875        | 9.60 070          | .48  | .91 706  | 9.96 240        | .10  | .43 481        | 9.63 830      | .58  | 0.36 170      | 2.2998        | 30  |
| 31           | 902            | 099               | •••  | 694      | 234             | .08  | 516            | 865           | .57  |               |               |     |
| 32           | 928            | 128               |      | 688      | 229             |      | 550            |               |      | 135           | 980           | 29  |
| 33           | 955            | 157               |      | 671      | 223             | .10  | 585            | 899           | .58  | 101           | 962           | 28  |
| 34           | 982            | 186               |      | 660      | 218             | .08  | 1              | 934           | .57  | 066           | 944           | 27  |
|              |                |                   |      | 000      |                 | .10  | 620            | 968           | .58  | 032           | 925           | 26  |
| 35           | .40 008        | 215               |      | 648      | 212             | .08  | 654            | 9.64 003      | .57  | 0.35997       | 907           | 25  |
| 36           | 035            | 244               |      | 636      | 207             | .10  | 689            | 037           | .58  | 963           | 889           | 24  |
| 37           | 062            | 273               |      | 625      | 201             | .08  | 724            | 072           | .57  | 928           | 871           | 23  |
| 38           | 088            | 302               |      | 618      | 196             | .10  | 758            | 106           |      | 894           | 853           | 22  |
| 39           | 115            | 331               | .47  | 601      | 190             | .08  | 798            | 140           | .58  | 860           | 835           | 21  |
| 40           | .40 141        | 9.60 359          | .48  | 01 500   | 0.00.105        |      | .43 828        |               |      |               |               |     |
|              |                |                   | .40  | .91 590  | 9.96 185        | .10  | 1              | 9.64 175      | .57  | 0.35 825      | 2.2817        | 20  |
| 41           | 168            | 388               |      | 578      | 179             | .08  | 862            | 209           | F-0  | 791           | 799           | 19  |
| 42           | 195            | 417               |      | 566      | 174             | .10  | 897            | 243           | .58  | 757           | 781           | 18  |
| 43           | 221            | 446               | .47  | 555      | 168             |      | 982            | 278           | .57  | 722.          | 763           | 17  |
| 44           | 248            | 474               | .48  | 543      | 162             | .08  | 966            | 312           |      | 688           | 745           | 16  |
| 45           | 275            | 503               |      | 531      | 157             | .10  | .44 001        | 346           | .58  | 654           | 727           | 15  |
| 46           | 301            | 532               |      | 519      | 151             | .08  | 036            | 381           | .57  | 619           | 709           | 14  |
| 47           | 328            | 561               | .47  | 508      | 146             | .10  | 071            | 415           |      | 585           | 691           | 13  |
| 48           | 355            | 589               | .48  | 496      | 140             | .08  | 105            | 449           |      | 551           | 673           | 12  |
| 49           | 381            | 618               | .47  | 484      | 135             | .10  | 140            | 483           |      | 517           | 655           | 11  |
|              |                |                   |      |          |                 |      | 100            |               | ,    |               |               |     |
| 50           | .40 408        | 9.60 646          | .48  | .91 472  | 9.96 129        | .10  | .44 175        | $9.64\ 517$   | .58  | $0.35\ 483$   | 2.2637        | 10  |
| 51           | 434            | 675               |      | 461      | 123             | .08  | 210            | 552           | .57  | 448           | 620           | 9   |
| 52           | 461            | 704               | .47  | 449      | 118             | .10  | 244            | 586           |      | 414           | 602           | 8   |
| 53           | 488            | 732               | .48  | 437      | 112             | .08  | 279            | 620           |      | 380           | 584           | 7   |
| 54           | 514            | 761               | .47  | 425      | 107             | .10  | 314            | 654           |      | 346           | 566           | 6   |
| 55           | 541            | 789               | .48  | 414      | 101             |      | 349            | 688           |      | 312           | 549           | 5   |
| 56           | 567            | 818               | .47  | 402      | 095             | .08  | 884            | 722           |      | 278           | 531           | 4   |
| 57           | 594            | 846               | .48  | 390      | 090             | .10  | 418            | 756           |      | 244           | 518           | 3   |
| 58           |                |                   |      |          |                 |      |                |               |      |               |               |     |
| 58<br>59     | 621            | 875               | .47  | 378      | 084             | .08  | 453            | . 790         |      | 210           | 496           | 2   |
| 60           | 647<br>.40 674 | 903<br>9.60 931   |      | .91 855  | 079<br>9.96 073 | .10  | 488<br>.44 523 | 824 $9.64858$ |      | 176 $0.35142$ | 478<br>2.2460 | 1 0 |
| 00           | .40 014        | J.00 951          |      | .000 16. | J. JU UI 3      |      | .44 028        | V.0± 090      |      | 0.50 142      | 2.2400        |     |
| 13°          | Nat.           | Log.              | Dif. | Nat.     | Log.            | Dif. | Nat.           | Log.          | Dif. | Log.          | Nat.          | 66  |
|              |                | Cosines.          |      |          | SINES.          |      | Сота           | NGENTS.       |      | TANGE         | NTS.          | 00  |
|              |                |                   |      |          |                 |      |                |               |      |               |               |     |

| 24°  |         | Sines.      |      |         | Cosines.   |      | TANG       | GENTS.            |            | COTANG      | ENTS.      | 155 |
|------|---------|-------------|------|---------|------------|------|------------|-------------------|------------|-------------|------------|-----|
| - T  | Nat.    | Log.        | Dif. | Nat.    | Log.       | Dif. | Nat.       | Log.              | Dif.       | Log.        | Nat.       | 10, |
| 0'   | .40 674 | 9.60 931    | .48  | .91 355 | 9.96 073   | .10  | .44 528    | 9.64 858          | .57        | 0.35 142    | 2,2460     | 60  |
| 1    | 700     | 960         | .47  | 343     | 067        | .08  | 558        | 892               | .01        | 108         | 443        | 59  |
| 2    | 727     | 988         |      | 331     | 062        | .10  | 593        | 926               |            | 074         | 425        | 58  |
| 3    | 753     | 9.61 016    | .48  | 319     | 056        | .10  | 627        | 960               |            | 040         | 408        | 57  |
| 4    | 780     | 045         | .47  | 307     | 050        | .08  | 662        | 994               |            | 006         | 390        | 56  |
|      |         |             |      |         |            |      |            |                   |            |             |            |     |
| 5    | 806     | 073         |      | 295     | 045        | .10  | 697        | 9.65 028          |            | 0.34972     | 373        | 55  |
| 6    | 833     | 101         |      | 283     | 039        | .08  | 732        | 062               |            | 938         | 355        | 54  |
| 7    | 860     | 129         | .48  | 272     | 034        | .10  | 767        | 096               |            | 904         | 338        | 53  |
| 8    | 886     | 158         | .47  | 260     | 028        |      | 802        | 130               |            | 870         | 320        | 5   |
| 9    | 913     | 186         |      | 248     | 022        | .08  | 837        | 164               | .55        | 836         | 303        | 5   |
| 10   | .40 939 | $9.61\ 214$ | .47  | .91 236 | 9.96017    | .10  | .44 872    | $9.65\ 197$       | .57        | 0.34803     | 2.2286     | 50  |
| 11   | 966     | 242         |      | 224     | 011        |      | 907        | 231               |            | 769         | 268        | 45  |
| 12   | 992     | 270         |      | 212     | 005        | .08  | 942        | 265               |            | 735         | 251        | 48  |
| 13   | .41 019 | 298         |      | 200     | 000        | .10  | 977        | 299               |            | 701         | 234        | 4'  |
| 14   | 045     | 326         |      | 188     | 9.95994    |      | .45 012    | 333               | .55        | 667         | 216        | 4   |
| 1.5  |         | 354         |      | 1       | 988        |      | 047        | 366               | .57        | 634         | 199        | 4   |
| 15   | 072     |             | 40   | 176     | 982        | 00   | 1          | 400               | .01        | 600         |            | 4   |
| 16   | 098     | 382         | .48  | 164     | 982<br>977 | .08  | 082        | $\frac{400}{434}$ | KH         | 566         | 182<br>165 | 4:  |
| 17   | 125     | 411         | .45  | 152     | 971        | .10  | 117<br>152 | $\frac{434}{467}$ | .55<br>.57 |             |            | 4:  |
| 18   | 151     | 438         | .47  | 140     |            | 00   |            |                   | .61        | 533         | 148        |     |
| 19   | 178     | 466         |      | 128     | 965        | .08  | 187        | 501               |            | 499         | 130        | 4   |
| 20   | .41 204 | $9.61\ 494$ | .47  | .91 116 | 9.95960    | .10  | .45 222    | $9.65\ 535$       | .55        | $0.34\ 465$ | 2.2113     | 4   |
| 21   | 231     | 522         |      | 104     | 954        |      | 257        | 568               | .57        | 432         | 096        | 3   |
| 22   | 257     | 550         |      | 092     | 948        |      | 292        | 602               |            | 398         | 079        | 3   |
| 23   | 284     | 578         |      | 080     | 942        | .08  | 327        | 636               | .55        | 364         | 062        | 3   |
| 24   | 310     | 606         |      | 068     | 937        | .10  | 362        | 669               | .57        | 331         | 045        | 3   |
| 25   | 337     | 634         |      | 056     | 931        |      | 397        | 703               | .55        | 297         | 028        | 3   |
| 26   | 363     | 662         | .45  | 044     | 925        | .08  | 432        | 736               | .57        | 264         | 011        | 3   |
| 27   | 390     | 689         | .47  | 032     | 920        | .10  | 467        | 770               | .55        | 230         | 2,1994     | 3   |
| 28   | 416     | 717         | .41  | 020     | 914        | .10  | 502        | 803               | .57        | 197         | 977        | 3   |
|      | ł       |             |      | 008     | 908        |      | 538        | 837               | .55        | 163         | 960        | 3   |
| 29   | 443     | 745         |      |         |            |      |            |                   |            |             |            | l l |
| 30   | .41 469 | 9.61773     | .45  | .90 996 | 9.95902    | .08  | .45 573    | 9.65870           | .57        | $0.34\ 130$ | 2.1943     | 3   |
| 31   | 496     | 800         | .47  | 984     | 897        | .10  | 608        | 904               | .55        | 096         | 926        | 2   |
| 32   | 522     | 828         |      | 972     | 891        |      | 643        | 937               | .57        | 063         | 909        | 23  |
| 33   | 549     | 856         | .45  | 960     | 885        |      | 678        | 971               | .55        | 029         | 892        | 2   |
| 34   | 575     | 883         | .47  | 948     | 879        |      | 713        | 9.66004           | .57        | 0.33996     | 876        | 2   |
| 35   | 602     | 911         |      | 936     | 873        | .08  | 748        | 038               | .55        | 962         | 859        | 2   |
| 36   | 628     | 939         | .45  | 924     | 868        | .10  | 784        | 071               | •          | 929         | 842        | 2   |
| 37   | 655     | 966         | .47  | 911     | 862        | •••  | 819        | 104               | .57        | 896         | 825        | 2   |
| 38   | 681     | 994         | .45  | 899     | 856        |      | 854        | 138               | .55        | 862         | 808        | 2   |
| 39   | 707     | 9.62 021    | .47  | 887     | 850        |      | 889        | 171               | •00        | 829         | 792        | 2   |
|      |         |             |      |         |            |      | 1          |                   |            |             |            |     |
| 40   | .41 734 | $9.62\ 049$ | .45  | .90 875 | 9.95 844   | .08  | .45 924    | 9.66 204          | .57        | 0.33 796    | 2.1775     | 2   |
| 41   | 760     | 076         | .47  | 863     | 839        | .10  | 960        | 238               | .55        | 762         | 758        | 1:  |
| 42   | 757     | 104         | .45  | 851     | 833        |      | 995        | 271               |            | 729         | 742        | 1   |
| 43   | 813     | 131         | .47  | 839     | 827        |      | .46 030    | 304               |            | 696         | 725        | 1   |
| 44   | 540     | 159         | .45  | 826     | 821        |      | 065        | 337               | .57        | 663         | 708        | 1   |
| 45   | 566     | 186         | .47  | 814     | 815        | .08  | 101        | 371               | .55        | 629         | 692        | 1.  |
| 46   | 892     | 214         | .45  | 802     | 810        | .10  | 136        | 404               |            | 596         | 675        | 14  |
| 47   | 919     | 241         |      | 790     | 804        |      | 171        | 437               |            | 563         | 659        | 1:  |
| 48   | 945     | 268         | .47  | 778     | 798        |      | 206        | 470               |            | 530         | 642        | 1:  |
| 49   | 972     | 296         | .45  | 766     | 792        |      | 242        | 503               | .57        | 497         | 625        | 1   |
|      |         |             |      | į .     |            | 4.0  |            |                   |            |             |            | ł   |
| 50   | .41 998 | 9.62 323    | .45  | .90 753 | 9.95 786   | .10  | .46 277    | 9.66537           | .55        | 0.33 463    | 2.1609     | 1   |
| 51   | .42 024 | 350         |      | 741     | 780        | .08  | 812        | 570               |            | 430         | 592        |     |
| 52   | 051     | 377         | .47  | 729     | 775        | .10  | 348        | 603               |            | 397         | 576        |     |
| 53   | 077     | 405         | .45  | 717     | 769        |      | 383        | 636               |            | 364         | 560        |     |
| 54   | 104     | 432         |      | 704     | 763        |      | 418        | 669               |            | 331         | 543        | (   |
| 55   | 130     | 459         |      | 692     | 757        |      | 454        | 702               |            | 298         | 527        | 1   |
| 56   | 156     | 486         |      | 680     | 751        |      | 489        | 735               |            | 265         | 510        | 4   |
| 57   | 153     | 513         | .47  | 668     | 745        |      | 525        | 768               |            | 232         | 494        | :   |
| 58   | 209     | 541         | .45  | 655     | 739        |      | 560        | 801               |            | 199         | 478        | :   |
| 59   | 235     | 568         |      | 643     | 733        | .08  | 595        | 834               |            | 166         | 461        | :   |
| 60   | .42 262 | $9.62\ 595$ |      | .90 631 | 9.95 728   |      | .46 631    | 9.66 867          |            | 0.33 133    | 2.1445     | (   |
| 1.40 | Nat.    | Log.        | Dif. | Nat.    | Log.       | Dif. | Nat.       | Log.              | Dif.       | Log.        | Nat.       | 0.  |
| 14°  |         |             |      |         |            |      |            |                   |            |             |            | 65  |
|      |         | Cosines.    |      |         | SINES.     |      | 1 107      | INGENTS.          |            | TANG        |            |     |

| $25^{\circ}$ |                | SINES.           |      |         | Cosines.    |      | TAN     | GENTS.      |      | COTANG      | GENTS. | 15       |
|--------------|----------------|------------------|------|---------|-------------|------|---------|-------------|------|-------------|--------|----------|
|              | Nat.           | Log.             | Dif. | Nat.    | Log.        | Dif. | Nat.    | Log.        | Dif. | Log.        | Nat.   | 134      |
| 0'           | 10.000         | 0.00.505         |      |         | 0.05 500    |      | i       |             |      |             |        | <u> </u> |
| 1            | .42 262<br>288 | $9.62595 \\ 622$ | .45  | .90 631 | 9.95 728    | .10  | .46 631 | 9.66 867    | .55  | $0.33\ 133$ | 2.1445 | 60       |
| 2            |                |                  |      | 618     | 722         |      | 666     | 900         |      | 100         | 429    | 59       |
| 3            | 315            | 649              |      | 606     | 716         |      | 702     | 933         |      | 067         | 413    | 58       |
| 4            | 341            | 676              |      | 594     | 710         |      | 737     | 966         |      | 034         | 396    | 5'       |
|              | 367            | 703              |      | 582     | 704         |      | 772     | 999         |      | 001         | 380    | 56       |
| 5            | 394            | 730              |      | 569     | 698         |      | 808     | 9.67 032    |      | 0.32968     | 364    | 5        |
| 6            | 420            | 757              |      | 557     | 692         |      | 843     | 065         |      | 935         | 348    | 5        |
| 7            | 446            | 784              |      | 545     | 686         |      | 879     | 098         |      | 902         | 332    | 5        |
| 8            | 473            | 811              |      | 532     | 680         |      | 914     | 131         | .53  | 869         | 315    | 5        |
| 9            | 499            | 838              |      | 520     | 674         |      | 950     | 163         | .55  | 837         | 299    | 5        |
| 10           | 40 505         |                  |      | 1       |             |      | 1       |             |      |             |        | 1        |
| 11           | .42 525<br>552 | 9.62865 $892$    | .45  | .90 507 | 9.95 668    | .08  | .46 985 | 9.67 196    | .55  | $0.32\ 804$ | 2.1283 | 5        |
| 12           | 1              |                  | .43  | 495     | 663         | .10  | .47 021 | 229         |      | 771         | 267    | 4:       |
|              | 578            | 918              | .45  | 483     | 657         |      | 056     | 262         |      | 738         | 251    | 4        |
| 13           | 604            | 945              |      | 470     | 651         |      | 092     | 295         | .53  | 705         | 235    | 4        |
| 14           | 631            | 972              |      | 458     | 645         |      | 128     | 327         | .55  | 673         | 219    | 4        |
| 15           | 657            | 999              |      | 446     | 639         |      | 163     | 360         |      | 640         | 203    | 4        |
| 16           | 683            | 9.63 026         | .43  | 433     | 633         |      | 199     | 393         |      | 607         | 187    | 4        |
| 17           | 709            | 052              | .45  | 421     | 627         |      | 234     | 426         | .53  | 574         | 171    | 4        |
| 18           | 736            | 079              | ,    | 408     | 621         |      | 270     | 458         | .55  | 542         | 155    | 4        |
| 19           | 762            | 106              |      | 396     | 615         |      | 305     | 491         | .00  | 509         | 139    | 4        |
|              |                |                  |      |         |             |      | 1       |             |      |             |        | 1        |
| 20           | .42 788        | 9.63 133         | .43  | .90 383 | 9.95 609    | .10  | .47 341 | $9.67\ 524$ | .53  | $0.32\ 476$ | 2.1123 | 4        |
| 21           | 815            | 159              | .45  | 371     | 603         |      | 377     | 556         | .55  | 444         | 107    | 3        |
| 22           | 841            | 186              |      | 358     | 597         |      | 412     | 589         |      | 411         | 092    | 3        |
| 23           | 867            | 213              | .43  | 346     | 591         |      | 448     | 622         | .53  | 378         | 076    | 3        |
| 24           | 894            | . 239            | .45  | 334     | 585         |      | 483     | 654         | .55  | 346         | 060    | 3        |
| 25           | 920            | 266              | .43  | 321     | 579         |      | 519     | 687         | .53  | 313         | 044    | 3        |
| 26           | 946            | 292              | .45  | 309     | 573         |      | 555     | 719         | .55  | 281         | 028    |          |
| 27           | 972            | 319              | .43  | 296     | 567         |      | 590     | 752         | .55  |             |        | 3        |
| 28           | 999            | 345              |      | 1       |             |      | 1       |             |      | 248         | 013    | 3        |
| 29           | Į.             | 372              | .45  | 284     | 561         |      | 626     | 785         | .53  | 215         | 2.0997 | 3        |
|              | .43 025        |                  | .43  | 271     | 555         |      | 662     | 817         | .55  | 183         | 981    | 3        |
| 30           | .43 051        | $9.63\ 398$      | .45  | .90 259 | $9.95\ 549$ | .10  | .47 698 | 9.67850     | .53  | $0.32\ 150$ | 2.0965 | 3        |
| 31           | 077            | 425              | .43  | 246     | 543         |      | 733     | 882         | .55  | 118         | 950    | 2        |
| 32           | 104            | 451              | .45  | 233     | 537         |      | 769     | 915         | .53  | 085         | 934    | 2        |
| 33           | 130            | 478              | .43  | 221     | 531         |      | 805     | 947         | .55  | 053         | 918    | 2        |
| 34           | 156            | 504              | .45  | 208     | 525         |      | 840     | 980         | .53  | 020         | 903    | 2        |
| 35           | 182            | 531              | .43  | 196     | 519         |      | 876     | 9.68 012    |      | 0.31 988    | 887    |          |
| 36           | 209            | 557              | .40  | 183     | 513         |      | 912     | 044         | -    |             |        | 2        |
| 37           | 205            | 583              | .45  | 1       | 507         | 10   | ı       |             | .55  | 956         | 872    | 2.       |
|              | I              |                  |      | 171     |             | .12  | 948     | 077         | .53  | 923         | 856    | 2        |
| 38           | 261            | 610              | .43  | 158     | 500         | .10  | 984     | 109         | .55  | 891         | 840    | 2        |
| 39           | 287            | 636              |      | 146     | 494         |      | .48 019 | 142         | .53  | 858         | 825    | 2        |
| 40           | .43 313        | $9.63\ 662$      | .45  | .90 133 | $9.95\ 488$ | .10  | .48 055 | $9.68\ 174$ | .53  | $0.31\ 826$ | 2.0809 | 2        |
| 41           | 340            | 689              | .43  | 120     | 482         |      | 091     | 206         | .55  | 794         | 794    | 1:       |
| 42           | 366            | 715              |      | 108     | 476         |      | 127     | 239         | .53  | 761         | 778    | 1        |
| 43           | 392            | - 741            |      | 095     | 470         |      | 163     | 271         |      | 729         | 763    | 1        |
| 44           | 418            | 767              | .45  | 082     | 464         |      | 198     | 303         | .55  | 697         | 748    | 1        |
|              | 1              |                  |      |         |             |      |         |             |      |             |        |          |
| 45           | 445            | 794              | .43  | 070     | 458         |      | 234     | 336         | .53  | 664         | 732    | 1        |
| 46           | 471            | 820              |      | 057     | 452         |      | 270     | 368         |      | 632         | 717    | 14       |
| 47           | 497            | 846              |      | 045     | 446         |      | 306     | 400         |      | 600         | 701    | 1:       |
| 48           | 523            | 872              |      | 032     | 440         | 40   | 342     | 432         | .55  | 568         | 686    | 15       |
| 49           | 549            | 898              |      | 019     | 434         | .12  | 378     | 465         | .53  | 535         | 671    | 11       |
| 50           | .43 575        | $9.63\ 924$      | .43  | .90 007 | $9.95\ 427$ | .10  | .48 414 | $9.68\ 497$ | .53  | $0.31\ 503$ | 2.0655 | 10       |
| 51           | 602            | 950              |      | .89 994 | 421         |      | 450     | 529         |      | 471         | 640    |          |
| 52           | 628            | 976              |      | 981     | 415         |      | 486     | 561         |      | 439         | 625    | 8        |
| 53           | 654            | $9.64\ 002$      |      | 968     | 409         |      | 521     | 593         | .55  |             | 609    | 7        |
| 54           | 680            | 028              |      | 956     | 403         |      | 557     | 626         | .53  | 374         | 594    | 6        |
|              |                |                  |      |         |             |      |         |             |      |             |        |          |
| 55           | 706            | 054              |      | 943     | 397         |      | 593     | 658         |      | 342         | 579    | 5        |
| 56           | 733            | 080              |      | 930     | 391         | .12  | 629     | 690         |      | 310         | 564    | 4        |
| 57           | 759            | 106              |      | 918     | 384         | .10  | 665     | 722         |      | 278         | 549    | 3        |
| 58           | 785            | 132              |      | 905     | 378         |      | 701     | 754         |      | 246         | 533    | 2        |
| 59           | 811            | 158              |      | 892     | 372         |      | 737     | 786         |      | 214         | 518    | 1        |
| 60           | .43 837        | 9.64 184         |      | .89 879 | 9.95 366    |      | .48 773 | 9.68 818    |      | 0.31 182    | 2.0503 | 0        |
|              | Nat.           | Log.             | Dif. | Nat.    | Log.        | Dif. | Nat.    | Log.        | Dif. | Log.        | Nat.   | 64       |
| $15^{\circ}$ |                |                  |      |         |             |      |         |             |      |             |        |          |

| $26^{\circ}$ |            | SINES.      |      |         | Cosines.    |      | TAN     | GENTS.      |      | COTAN       | GENTS. | 150            |
|--------------|------------|-------------|------|---------|-------------|------|---------|-------------|------|-------------|--------|----------------|
| 20           | Nat.       | Log.        | Dif. | Nat.    | Log.        | Dif. | Nat.    | Log.        | Dif. | Log.        | Nat.   | 153            |
|              |            |             |      | i       |             |      | i       |             |      |             |        |                |
| 0'           | .43 837    | $9.64\ 184$ | .43  | .89 879 | 9.95 366    | .10  | .48 773 | 9.68818     | .53  | $0.31\ 182$ | 2.0503 | 60             |
| 1            | 863        | 210         |      | 867     | 360         |      | S09     | 850         |      | 150         | 488    | 59             |
| 2            | 889        | 236         |      | S54     | 354         |      | 845     | 882         |      | 118         | 473    | 58             |
| 3            | 916        | 262         |      | 841     | 348         | .12  | 881     | 914         |      | 086         | 458    | 57             |
| 4            | 942        | 288         | .42  | 828     | 341         | .10  | 917     | 946         |      | 054         | 443    | 56             |
| 5            | 968        | 313         | .43  | S16     | 335         |      | 953     | 978         |      | 022         | 428    | 55             |
| 6            | 994        | 339         |      | 803     | 329         |      | 989     | 9.69 010    |      | 0.30 990    | 413    | 54             |
| 7            | .44 020    | 365         |      | 790     | 323         |      | .49 026 | 042         |      | 958         | 398    | 53             |
| 8            | 046        | 391         |      | 777     | 317         | .12  | 062     | 074         |      | 926         | 383    | 52             |
| 9            | 072        | 417         | .42  | 764     | 310         | .10  | 098     | 106         |      | 894         | 368    | 51             |
|              |            |             |      |         |             |      |         |             |      |             |        |                |
| 10           | .44 098    | $9.64\ 442$ | .43  | .89 752 | $9.95\ 304$ | .10  | .49 134 | $9.69\ 138$ | .58  | $0.30\ 862$ | 2.0353 | 50             |
| 11           | 124        | 468         |      | 739     | 298         |      | 170     | 170         |      | 830         | 338    | 49             |
| 12           | 151        | 494         | .42  | 726     | 292         |      | 206     | 202         |      | 798         | 323    | 48             |
| 13           | 177        | 519         | .43  | 713     | 286         | .12  | 242     | 234         |      | 766         | 308    | 47             |
| 14           | 203        | 545         |      | 700     | 279         | .10  | 278     | 266         |      | 734         | 293    | 46             |
| 15           | 229        | 571         | .42  | 687     | 273         |      | 315     | 298         | .52  | 702         | 278    | 45             |
| 16           | 229<br>255 | 596         | .42  | 674     | 267         |      | 351     | 329         | .53  | 671         | 263    | 44             |
|              |            |             |      | 1       | 261         | 10   | 1       |             | .08  |             |        |                |
| 17           | 281        | 622         | .42  | 662     |             | .12  | 387     | 361         |      | 639         | 248    | 43             |
| 18           | 307        | 647         | .43  | 649     | 254         | .10  | 423     | 393         |      | 607         | 233    | 4:             |
| 19           | 333        | 673         | .42  | 636     | 248         |      | 459     | <b>425</b>  |      | 575         | 219    | 4              |
| 20           | .44 359    | 9.64698     | .43  | .89 623 | $9.95\ 242$ | .10  | .49 495 | $9.69\ 457$ | .52  | $0.30\ 543$ | 2.0204 | 40             |
| 21           | 385        | 724         | .42  | 610     | 236         | .12  | 532     | 488         | .53  | 512         | 189    | 35             |
| 22           | 411        | 749         | .43  | 597     | 229         | .10  | 568     | 520         | -    | 480         | 174    | 38             |
| 23           | 437        | 775         | .42  | 584     | 223         |      | 604     | 552         |      | 448         | 160    | 3'             |
| 24           | 464        | 800         | .43  | 571     | 217         |      | 640     | 584         | .52  | 416         | 145    | 36             |
|              |            |             |      |         |             |      |         |             |      |             |        | 1              |
| 25           | 490        | 826         | .42  | 558     | 211         | .12  | 677     | 615         | .53  | 385         | 130    | 38             |
| 26           | 516        | 851         | .43  | 545     | 204         | .10  | 713     | 647         |      | 353         | 115    | 34             |
| 27           | 542        | 877         | .42  | 532     | 198         |      | 749     | 679         | .52  | 321         | 101    | 33             |
| 28           | 568        | 902         |      | 519     | 192         | .12  | 786     | 710         | .53  | 290         | 086    | 3:             |
| 29           | 594        | 927         | .43  | 506     | 185         | .10  | 822     | 742         |      | 258         | 072    | 3              |
| 30           | .44 620    | 9.64 953    | .42  | .89 493 | 9.95 179    | .10  | .49 858 | 9.69 774    | .52  | 0.30 226    | 2.0057 | 30             |
| 31           |            | 978         | .42  | 480     | 173         | .10  | 894     | 805         | .53  | 1.95        | 042    | 29             |
|              | 646        |             | 40   | l       |             | 10   | 1       |             |      |             |        |                |
| 32           | 672        | 9.65 003    | .43  | 467     | 167         | .12  | 931     | 837         | .52  | 163         | 028    | 28             |
| 33           | 698        | 029         | .42  | 454     | 160         | .10  | 967     | 868         | .53  | 132         | 013    | 27             |
| 34           | 724        | 054         |      | 441     | 154         |      | .50 004 | 900         |      | 100         | 1.9999 | 20             |
| 35           | 750        | 079         |      | 428     | 148         | .12  | 040     | 932         | .52  | 068         | 984    | 20             |
| 36           | 776        | 104         | .43  | 415     | 141         | .10  | 076     | 963         | .53  | 037         | 970    | 24             |
| 37           | 802        | 130         | .42  | 402     | 135         |      | 113     | 995         | .52  | 005         | 955    | 23             |
| 38           | 828        | 155         |      | 389     | 129         | .12  | 149     | 9.70 026    | .53  | 0.29974     | 941    | 25             |
| 39           | 854        | 180         |      | 376     | 122         | .10  | 185     | 058         | .52  | 942         | 926    | 2              |
|              |            |             |      |         |             |      | 1       |             |      |             |        | i              |
| 40           | .44 880    | $9.65\ 205$ | .42  | .89 363 | $9.95\ 116$ | .10  | .50 222 | $9.70\ 089$ | .53  | $0.29\ 911$ | 1.9912 | 20             |
| 41           | 906        | 230         |      | 250     | 110         | .12  | 258     | 121         | .52  | 879         | 897    | 19             |
| 42           | 932        | 255         | .43  | 337     | 103         | .10  | 295     | 152         | .53  | 848         | 883    | 1,8            |
| 43           | 958        | 281         | .42  | 324     | 097         | .12  | 331     | 184         | .52  | 816         | 868    | 1              |
| 44           | 954        | 306         |      | 311     | 090         | .10  | 368     | 215         | .53  | 785         | 854    | 10             |
|              |            |             |      | 900     | 084         |      | 101     | 247         | .52  | 753         | 240    | 15             |
| 45           | .45 010    | 331         |      | 298     |             | 10   | 404     | 278         | .02  |             | 840    |                |
| 46           | 036        | 356         |      | 285     | 078         | .12  | 441     |             | **   | 722         | 825    | 14             |
| 47           | 062        | 381         |      | 272     | 071         | .10  | 477     | 309         | .53  | 691         | 811    | 13             |
| 48           | 058        | 406         |      | 259     | 065         |      | 514     | 341         | 1.52 | 659         | 797    | 1:             |
| 49           | 114        | 431         |      | 245     | 059         | .12  | 550     | 372         | .53  | 628         | 782    | 11             |
| 50           | .45 140    | $9.65\ 456$ | .42  | .59 232 | $9.95\ 052$ | .10  | .50 587 | $9.70\ 404$ | .52  | $0.29\ 596$ | 1.9768 | 10             |
| 51           | 166        | 481         |      | 219     | 046         | .12  | 623     | 435         |      | 565         | 754    |                |
| 52           | 192        | 506         |      | 206     | 039         | ,10  | 660     | 466         | .53  | 534         | 740    | 8              |
| 53           | 218        | 531         |      | 193     | 033         |      | 696     | 498         | .52  | 502         | 725    | 7              |
| 54           | 243        | 556         | .40  | 180     | 027         | .12  | 733     | 529         |      | 471         | 711    | 6              |
|              |            |             |      |         |             |      |         |             |      |             |        | 1              |
| 55           | 269        | 580         | .42  | 167     | 020         | .10  | 769     | 560         | .53  | 440         | 697    | 5              |
| 56           | 295        | 605         |      | 153     | 014         | .12  | 806     | 592         | .52  | 408         | 683    | 4              |
| 57           | 321        | 630         |      | 140     | 007         | .10  | 843     | 623         |      | 377         | 669    | :              |
| 58           | 347        | 655         |      | 127     | 001         |      | 879     | 654         |      | 346         | 654    | 2              |
| 59           | 373        | 680         |      | 114     | 9.94 995    | .12  | 916     | 685         | .53  | 315         | 640    | ]              |
| 60           | .45 399    | 9.65 705    |      | .89 101 | 9.94 988    |      | ,50 958 | 9.70 717    |      | 0.29 283    | 1.9626 | (              |
|              | Nat.       | Log.        | Dif. | Nat.    | Log.        | Dif. | Nat.    | Log.        | Diŕ, | Log.        | Nat.   | $\frac{1}{63}$ |
| 16°          |            |             |      | 1       | 101         |      |         | _           |      | _           |        |                |

| 27°  |         | SINES.      |      |          | Cosines. |      | TANG     | ENTS.             |      | Cotang       | ENTS.  | 152 |
|------|---------|-------------|------|----------|----------|------|----------|-------------------|------|--------------|--------|-----|
| _    | Nat.    | Log.        | Dif. | Nat.     | Log.     | Dif. | Nat.     | Log.              | Dif. | Log.         | Nat.   | 102 |
| 0'   | .45 399 | 9.65 705    | .40  | .89 101  | 9.94 988 | .10  | .50 953  | 9.70 717          | .52  | 0.29 283     | 1.9626 | 60′ |
| 1    | 425     | 729         | .42  | 087      | 982      | .12  | 989      | 748               | .02  | 252          | 612    | 59  |
| 2    | 451     | 754         | .42  | 074      | 975      | .10  | .51 026  | 779               |      | . 221        | 598    | 58  |
| 3    | 477     | 779         |      | 061      | 969      | .12  | 063      | 810               |      | 190          | 584    | 57  |
| 4    | 508     | 804         | .40  | 048      | 962      | .10  | 099      | 841               | .53  | 159          | 570    | 56  |
|      |         |             |      |          |          |      |          |                   |      |              |        |     |
| 5    | 529     | 828         | .42  | 035      | 956      | .12  | 136      | 873               | .52  | 127          | 556    | 55  |
| 6    | 554     | 853         |      | 021      | 949      | .10  | 173      | 904               |      | 096          | 542    | 54  |
| 7    | 580     | 878         | .40  | 008      | 943      | .12  | 209      | 935               |      | 065          | 528    | 53  |
| 8    | 606 ,   | 902         | .42  | .88 995  | 936      | .10  | 246      | 966               |      | 034          | 514    | 52  |
| 9    | 632     | 927         |      | 981      | 930      | .12  | 283      | 997               |      | 003          | 500    | 51  |
| 10   | .45 658 | 9.65 952    | .40  | .88 968  | 9.94 923 | .10  | .51 819  | 9.71 028          | .52  | 0.28 972     | 1.9486 | 50  |
| 11   | 684     | 976         | .42  | 955      | 917      |      | 356.     | 059               |      | 941          | 472    | 49  |
| 12   | 710     | 9.66 001    | .40  | 942      | 911      | .12  | 393      | 090               |      | 910          | 458    | 48  |
| 13   | 786     | 025         | .42  | 928      | 904      | .10  | 430      | 121               | .53  | 879          | 444    | 47  |
| 14   | 762     | 050         |      | 915      | 898      | .12  | 467      | 153               | .52  | 847          | 430    | 46  |
| 15   | 787     | 075         | .40  | 902      | 891      | .10  | 508      | $\frac{184}{215}$ |      | $816 \\ 785$ | 416    | 45  |
| 16   | 813     | 099         | .42  | 888      | 885      | .12  | 540      |                   |      |              | 402    |     |
| 17   | 839     | 124         | .40  | 875      | 878      |      | 577      | 246               |      | 754          | 888    | 43  |
| 18   | 865     | 148         | .42  | 862      | 871      | .10  | 614      | 277               |      | 723          | 375    | 42  |
| 19   | 891     | 173         | .40  | 848      | 865      | .12  | 651      | 308               |      | 692          | 361    | 41  |
| 20   | .45 917 | 9.66 197    | .40  | .88 835  | 9.94 858 | .10  | .51 688  | 9.71 339          | .52  | 0.28 661     | 1.9347 | 40  |
| 21   | 942     | 221         | .42  | 822      | 852      | .12  | 724      | 370               |      | 630          | 333    | 39  |
| 22   | 968     | 246         | .40  | 808      | 845      | .10  | 761      | 401               | .50  | 599          | 319    | 38  |
| 23   | 994     | 270         | .42  | 795      | 839      | .12  | 798      | 431               | .52  | 569          | 306    | 37  |
| 24   | .46 020 | 295         | .40  | 782      | 832      | .10  | 835      | 462               |      | 538          | 292    | 36  |
| 25   | 046     | 319         |      | 768      | 826      | .12  | 872      | 493               |      | 507          | 278    | 35  |
| 26   | 072     | 343         | .42  | 755      | 819      | .10  | 909      | 524               |      | 476          | 265    | 34  |
| 27   | 097     | 368         | .40  | 741      | 813      | .12  | 946      | 555               |      | 445          | 251    | 33  |
| 28   | 123     | 392         |      | 728      | 806      |      | 983      | 586               |      | 414          | 237    | 35  |
| 29   | 149     | 416         | .42  | 715      | 799      | .10  | .52 020  | 617               |      | 383          | 223    | 3   |
| 30   | .46 175 | 9.66 441    | .40  | .88 701  | 9.94 793 | .12  | .52 057  | 9.71 648          | .52  | 0.28 352     | 1.9210 | 30  |
| 31   | 201     | 465         | .10  | 688      | 786      | .10  | 094      | 679               | .50  | 321          | 196    | 25  |
| 32   | 226     | 489         |      | 674      | 780      | .12  | 131      | 709               | .52  | 291          | 183    | 28  |
| 33   | 252     | 513         |      | 661      | 773      | .10  | 168      | 740               | •••  | 260          | 169    | 2   |
| 34   | 278     | 537         | .42  | 647      | 767      | .12  | 205      | 771               |      | 229          | 155    | 26  |
|      | 1       |             |      | 1        |          |      | V.       |                   |      | 198          | 142    | 25  |
| 35   | 304     | 562         | .40  | 634      | 760      |      | 242      | 802               | -    |              |        | 24  |
| 36   | 330     | 586         |      | 620      | 753      | .10  | 279      | 833               | .50  | 167          | 128    | 23  |
| 37   | 855     | 610         |      | 607      | 747      | .12  | 316      | 863               | .52  | 137          | 115    | 25  |
| 38   | 381     | 634         |      | 598      | 740      | .10  | 353      | 894               |      | 706          | 101    |     |
| 39   | 407     | 658         |      | 580      | 734      | .12  | 390      | 925               | .50  | 075          | 088    | 2   |
| 40   | .46 433 | 9.66682     | .40  | .88 566  | 9.94727  | .12  | .52 427  | 9.71955           | .52  | $0.28\ 045$  | 1.9074 | 20  |
| 41   | 458     | 706         | .42  | 553      | 720      | .10  | 464      | 986               |      | 014          | 061    | 19  |
| 42   | 484     | 731         | .40  | 589      | 714      | .12  | 501      | $9.72\ 017$       |      | 0.27983      | 047    | 13  |
| 43   | 510     | 755         |      | 526      | . 707    |      | 538      | 048               | .50  | 952          | 034    | 1'  |
| 44   | 536     | 779         |      | 512      | 700      | .10  | 575      | 078               | .52  | 922          | 020    | 10  |
| 45   | 561     | 803         |      | 499      | 694      | .12  | 613      | 109               |      | 891          | 007    | 13  |
|      | 587     | 827         |      | 485      | 687      |      | 650      | 140               | .50  | 860          | 1.8993 | 14  |
| 46   | 613     | 851         |      | 472      | 680      | .10  | 687      | 170               | .52  | 830          | 980    | 1:  |
| 47   | 1       | 875         |      | 458      | 674      | .12  | 724      | 201               | .50  | 799          | 967    | 1:  |
| 48   | 639     | 899         | .38  | 445      | 667      | .14  | 761      | 231               | .52  | 769          | 953    | 1   |
| 49   | 664     |             |      |          |          |      |          |                   |      |              |        | 10  |
| 50   | .46 690 | 9.66922     | .40  | .88 431  | 9.94 660 | .10  | .52 798  | 9.72 262          | .52  | 0.27 738     | 1.8940 | 1   |
| 51   | 716     | 946         |      | 417      | 654      | .12  | 836      | 293               | .50  | 707          | 927    |     |
| 52   | 742     | 970         |      | 404      | 647      |      | 873      | 323               | .52  | 677          | 913    |     |
| 53   | 767     | 994         |      | 390      | 640      | .10  | 910      | 354               | .50  | 646          | 900    |     |
| 54   | 793     | $9.67\ 018$ |      | 377      | 634      | .12  | 947      | 384               | .52  | 616          | 887    | 1   |
| 55   | 819     | 042         |      | 363      | 627      |      | 985      | 415               | .50  | 585          | 873    |     |
| 56   | 844     | 066         |      | 349      | 620      | .10  | .53 022  | 445               | .52  | 555          | 860    | 4   |
| 57   | 870     | 090         | .38  | 336      | 614      | .12  | 059      | 476               | .50  | 524          | 847    | :   |
| 58   | 896     | 113         | .40  | 322      | 607      |      | 096      | 506               | .52  | 494          | 834    | 1 : |
| 59   | 921     | 137         | .40  | 308      | 600      |      | 134      | 537               | .50  | 463          | 820    |     |
|      |         | 9.67 161    |      | .88 295  | 9.94 593 |      | .53 171  | 9.72 567          |      | 0.27 433     | 1.8807 | 1   |
| 60   | .46 947 | v.01 101    |      | 1.00 200 | 0.0± 000 |      | 1.50 111 |                   |      |              |        | 10  |
| 117° | Nat.    | Log.        | Dif. | Nat.     | Log.     | Dif. | Nat.     | Log.              | Dif. | Log.         | Nat.   | 62  |
|      |         | Cosines.    |      | 1        | SINES.   |      | Сот      | ANGENTS.          |      | TANG         | ENTS.  | 1   |

| Nat.   Loc.   Diff.   Nat.   Loc.   Diff.   Nat.   Loc.   Diff.   Nat.   Loc.   Diff.   Nat.   Loc.   Diff.   Nat.   Loc.   Diff.   Nat.   Loc.   Diff.   Loc.   Dif | 28° |         | SINES.   |      |         | Cosines.    |      | TANG    | GENTS.   |      | COTANO   | GENTS.     | 151 |
|--|-----|---------|----------|------|---------|-------------|------|---------|----------|------|----------|------------|-----|
| 1  | 20  | Nat.    | Log.     | Dif. | Nat.    | Log.        | Dif. | Nat.    | Log.     | Dif. | Log.     | Nat.       | 101 |
| 1         973         155         38         981         587         12         298         598         598         402         794         178         31         17 624         232         924         573         10         283         659         50         341         768         341         768         44         600         256         520         667         12         280         689         52         321         715         56         171         277         327         88         199         646         10         482         780         52         250         715           8         133         350         40         185         540         12         470         811         50         188         533         780         81         50         115         980         782         50         021         189         982         50         021         189         982         50         021         189         982         50         021         189         982         50         021         189         680         932         50         021         189         680         660         667         932         50   | 0/  | 10.015  | 0.67.161 | 10   | CC 005  | 0.04.502    | 10   | 50 151  | 0 79 567 | 50   | 0.97.499 | 1 0007     | 60  |
|  |     |         |          |      | 1       |             |      | 1       |          |      |          |            | 59  |
| 3         4.7 e24         222         254         573         10         288         659         .0         341         768           5         676         280         .88         226         560         388         720         .50         280         728         720         .50         280         720         728         720         720         728         720         720         728         720         720         728         720         720         728         720         720         728         720         721         720         720         721         720         721         720         721         88         198         560         720         720         721         88         720         721         88         720         721         88         720         721         88         720         721         88         702         720         721         88         702         720         721         88         720         721         88         720         721         88         720         721         88         720         720         721         88         720         720         720         720         720         72   |     |         |          |      | 1       |             | .12  | i e     |          |      |          |            | 58  |
| 4         0c0         256         940         567         12         880         689         12         311         755           5         076         280         38         560         385         720         50         280         741           6         101         303         40         218         553         385         750         2         220         715           7         127         327         38         180         546         10         482         780         52         220         715           9         178         373         4         187         533         007         841         52         165         689           11         4794         967         38         818         130         513         12         801         52         290         00         0.72         18         661           12         255         445         38         130         131         12         802         52         0.0         0.077         624           13         381         491         492         600         492         732         973         20         0.077   |     |         |          | .40  |         |             | 10   | 1       |          |      |          |            | 57  |
| 5         076         280         38         226         560         48         720         50         280         741           6         101         303         40         185         553         885         750         250         728           8         133         350         40         185         540         12         470         811         50         189         702           10         47 94         9.67 308         38         8.185         9.94         526         12         3845         9.72         0         0.27 128         1.8676           11         290         421         40         144         144         169         10         82         922         0         0.21 128         1.866           12         255         4445         38         160         151         0         667         932         52         0.68         660           14         306         492         38         108         40         171         83         102         40         90         44         492         732         93         50         0.26 787         61         16           15 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>56</td>   |     |         |          |      |         |             |      |         |          |      |          |            | 56  |
| 6         101         303         40         218         553         B         555         750         220         718           8         133         350         40         155         540         12         470         811         50         189         762           10         474         967398         38         88         88         180         994526         12         3345         9.72         772         50         0.27128         18668           11         229         441         40         144         519         10         522         902         908         668         663           12         255         445         38         100         513         12         260         992         20         088         663           13         251         448         30         117         506         67         963         30         077         687           15         382         515         40         602         4479         12         847         993         32         92         0.26         974         688           15         482         6056         38   |     |         |          |      |         |             | .12  |         | ,        |      |          |            |     |
| T         127         321         38         199         546         10         442         T80         52         20         115         374         155         540         12         470         841         52         159         689           10         4.794         9.67398         38         1818         5918         596         567         841         52         159         689           11         292         421         40         144         519         10         522         902         908         668           12         255         445         38         130         513         12         660         932         52         068         650           14         306         492         38         103         492         647         973         933         507         641           16         355         539         38         615         485         10         760         054         96         96         98           17         384         602         468         472         841         114         28         65         559           24         456         3  | 5   | 076     |          | .38  | 226     |             |      |         |          | .50  |          |            | 55  |
| 8         1183         350         40         1185         540         12         470         811         50         189         702           10         4724         967 398         38         88         8318         9.94 526         412         3345         9.72 872         50         0.27 128         1.8676           11         229         4421         40         144         519         10         522         902         908         668           13         251         4468         40         117         5066         67         963         50         937         837           15         382         515         40         689         492         782         973         923         50         964         993           15         382         515         40         693         492         79         79         984         993         907         61           16         385         562         38         608         472         847         893         52         0.26 977         611           16         385         566         38         908         472         847         933  | 6   | 101     | 303      | .40  | 213     | 553         |      | 395     |          |      |          | 728        | 54  |
| 9         178         374           172         533           507         841           52         1686         689           10           172         9,67,398           88         85,158         9,94,226           12         255         445           88         81,188         103         513           12         250         902         008         663           12         255         4468           117         506         667         903           50         0037         681           14         306         492           38         103         499         644         993         007         624           15         332         515           40         692         479           12         873         932           92,6977         611           16         332         515           40         692         4479           12         841         114           86         685           18         40         586           40           405           12         841           114           886         852           21         434           697         634         485           12           892         913   | 7   | 127     | 327      | .38  | 199     | 546         | .10  | 432     | 780      | .52  | 220      | 715        | 53  |
| 10   | 8   | 153     | 350      | .40  | 185     | 540         | .12  | 470     | 811      | .50  | 189      | 702        | 52  |
| 11   | 9   | 178     | 374      |      | 172     | 533         |      | 507     | 841      | .52  | 159      | 689        | 51  |
| 12   | 10  | .47 204 | 9.67 398 | .38  | .88 158 | $9.94\ 526$ | .12  | .53 545 | 9.72872  | .50  |          | 1.8676     | 50  |
| 13   | 11  | 229     | 421      | .40  | 144     | 519         | .10  | l .     |          |      |          | 663        | 49  |
| 144         306         492         .8s         108         499         694         993         007         624           15         382         515         .40         689         4492         .782         9.73 023         .59         0.26 677         611           16         383         550         .8s         615         485         .10         769         054         .50         .946         .58           18         409         556         .8s         4472         .12         867         084         .916         .885           19         434         609         .40         .984         465         882         144         .02         .856         559           20         .1460         9.633         .8s         8502         9.94458         .12         .995         235         .765         .559           21         486         656         .40         .85         .999         9.438         .10         .905         2235         .765         .520           22         511         .686         .8s         .901         .424         .10         .1736         .40         .854         .40         .40 <td>12</td> <td>255</td> <td>445</td> <td>.38</td> <td>130</td> <td>513</td> <td>.12</td> <td>620</td> <td>932</td> <td>.52</td> <td></td> <td>650</td> <td>48</td>  | 12  | 255     | 445      | .38  | 130     | 513         | .12  | 620     | 932      | .52  |          | 650        | 48  |
| 15   | 13  | 281     |          | .40  | 117     | 506         |      | 657     | 963      | .50  | 037      | 637        | 4'  |
| 16         355         539         .85         075         485         .10         769         054         .50         946         688           18         409         586         .85         048         472         844         114         .92         856         .58           19         434         609         .40         .94         465         882         144         .14         .52         856         .59           20         .474         .90         9.67         633         .85         880         9.94         458         .82         144         .52         856         .59           21         486         656         .40         606         451         .10         957         205         .795         .38           22         511         680         .85         8598         445         .12         .995         .235         .765         .592           24         562         726         .40         965         431         107         295         .52         .705         408           25         588         750         .88         951         417         114         336 <t< td=""><td>14</td><td>306</td><td>492</td><td>.38</td><td>103</td><td>499</td><td></td><td>694</td><td>993</td><td></td><td>007</td><td>624</td><td>4(</td></t<>  | 14  | 306     | 492      | .38  | 103     | 499         |      | 694     | 993      |      | 007      | 624        | 4(  |
| 16         355         539         .85         075         485         .10         769         054         .50         946         688           18         409         586         .85         048         472         844         114         .92         856         .58           19         434         609         .40         .94         465         882         144         .14         .52         856         .59           20         .474         .90         9.67         633         .85         880         9.94         458         .82         144         .52         856         .59           21         486         656         .40         606         451         .10         957         205         .795         .38           22         511         680         .85         8598         445         .12         .995         .235         .765         .592           24         562         726         .40         965         431         107         295         .52         .705         408           25         588         750         .88         951         417         114         336 <t< td=""><td>15</td><td>332</td><td>515</td><td>40 4</td><td>089</td><td>492</td><td></td><td>732</td><td>9.73 023</td><td>.52</td><td>0.26.977</td><td>611</td><td>4</td></t<>   | 15  | 332     | 515      | 40 4 | 089     | 492         |      | 732     | 9.73 023 | .52  | 0.26.977 | 611        | 4   |
| 17         888         562         .40         062         479         .12         807         084         916         885         572           19         444         609         .40         .934         465         82         144         .92         856         .59           20         .47 460         9.67 633         .85         1800         9.94 458         .12         .980         9.73 175         .50         0.26 825         1,836           21         486         656         .40         066         451         .10         957         225         765         520           22         511         680         .88         8598         445         .12         .995         235         765         520           23         581         662         726         .40         965         431         .070         295         .52         705         .495           24         562         726         .40         .966         431         .070         295         .52         .705         .495           25         588         750         .89         931         424         .107         326         .50   |     |         |          |      |         |             |      | )       |          |      |          |            | 44  |
| 18         400         5 86         .88         048         472         844         114         886         572           20         .4740         9.67 633         .88         .820         9.94 458         .12         .882         174         .92         856         559           21         486         656         .40         006         451         .10         907         205         795         538           21         486         656         .40         006         451         .10         907         205         795         538           22         511         680         .88         8798         445         .12         .995         235         765         795         528           24         562         726         .40         966         431         107         295         .52         705         495           25         588         750         .88         951         424         107         326         .50         674         468           27         639         796         .40         923         410         .10         .18         388         6614         460  |     |         |          |      |         |             |      |         |          | .00  |          |            | 4:  |
| 19   |     |         |          |      | 1       |             | .12  |         |          |      |          |            | 4:  |
| 20         4.7 460         9.67 633         3.8         8.8 020         9:94 458         .12         38 920         9.73 175         .50         0.26 825         1.846           21         486         656         4.0         451         1.0         907         205         795         538           22         511         680         .88         8798         445         .12         995         235         765         522           24         562         726         .40         965         431         070         295         .52         705         495           26         614         773         .40         983         410         .10         143         336         644         469           27         639         796         .40         923         410         .10         183         336         614         469           28         665         820         .88         999         404         .12         220         416         554         448           29         690         843         896         397         228         446         554         439           31         741 <t< td=""><td></td><td></td><td></td><td></td><td>1</td><td></td><td></td><td>1</td><td></td><td>K0</td><td></td><td></td><td>4</td></t<>   |     |         |          |      | 1       |             |      | 1       |          | K0   |          |            | 4   |
| 21         486         656         .40         006         451         .10         997         205         795         538           22         511         680         .85         8798         445         .12         995         235         765         520           24         562         726         .40         965         431         .000         295         .52         705         495           25         588         750         .88         951         424         107         326         .50         674         482           26         614         773         987         417         1145         356         644         466           27         639         706         .40         923         410         .10         183         336         614         456           28         665         820         .88         909         404         .12         220         416         554         448           29         600         843         896         397         268         446         554         449           31         531         531         531         531         531  | - 1 |         |          |      | -       |             |      | 1       |          |      |          |            |     |
| 22         511         680         .8         .87998         445         .12         .995         235         765         520           23         537         703         979         438         .54 682         265         735         507           25         588         750         .88         951         424         107         326         .50         674         482           26         614         773         997         417         145         356         6644         469           27         639         796         .40         993         410         .10         183         366         614         456           28         665         820         .88         909         404         .12         220         416         584         448           29         690         843         896         397         258         446         584         438           31         741         890         .88         888         383         333         597         .50         0.26 524         1.8418           31         767         913         886         362         362         446   |     |         |          |      | 1       |             |      | l .     |          | .50  |          |            | 4   |
| 23         587         703         979         438         5408         265         735         507           24         562         726         .40         965         431         070         295         .52         705         495           25         588         750         .88         951         424         107         326         .50         674         482           26         614         773         987         417         145         356         .60         644         469           28         665         820         .88         909         404         .12         220         416         554         436           29         690         843         866         397         258         446         554         436           29         690         843         868         383         383         507         .50         493         405           30         47716         9.67 866         .40         .57 882         9.94 390         .12         .42 406         .57 34         .40         .57 433         .40         .57 433         .40         .57 433         .40         .57 43         .40   |     | 486     |          |      |         |             |      | 1       |          |      |          |            | 3   |
| 24         562         726         .40         965         431         070         295         .52         705         495           25         588         750         .88         951         424         107         326         .50         674         482           27         689         796         .40         923         410         .10         183         386         614         436           28         665         820         .88         909         404         .12         220         416         584         443           30         .47 716         9.67 866         .40         .87 882         9.94 390         .12         .54 296         9.73 476         .52         0.26 524         1.818           31         741         890         .88         868         383         333         507         .50         .493         405           32         767         913         854         376         311         537         463         392           34         818         950         9.6         362         446         597         403         367           35         844         982         <  | 22  | 511     | 680      | .38  | .87 993 | 445         | .12  | 995     | 235      |      |          | 520        | 3   |
| 25         588         750         .88         951         424         107         326         .50         674         482           26         614         773         937         417         145         356         644         469           27         639         796         40         923         410         .10         183         386         614         456           28         665         820         .88         909         404         .12         220         416         584         443           29         600         843         896         397         258         446         554         430           30         .47 716         9.67 866         .40         .57 882         9.94 390         .12         .54 296         9.73 476         .52         0.26 524         1.841           31         741         890         .38         883         369         9.73 476         .52         0.26 524         1.8418           32         767         913         854         376         871         537         463         892           34         818         982         .40         812         355 <td></td> <td>537</td> <td>703</td> <td></td> <td>979</td> <td></td> <td></td> <td>.54 032</td> <td></td> <td></td> <td></td> <td>507</td> <td>3</td>   |     | 537     | 703      |      | 979     |             |      | .54 032 |          |      |          | 507        | 3   |
| 26         614         773         987         417         145         356         644         469           27         639         796         .40         923         410         .10         183         386         614         466           28         665         820         .88         909         404         .12         220         416         584         443           29         600         843         896         397         258         446         554         430           30         47716         9.67 866         .40         .87 882         9.94 390         .12         .54 296         9.73 476         .52         0.26 524         1.8418           31         741         890         .38         868         383         333         507         .50         .493         405           32         767         913         854         376         871         557         .403         892           34         818         959         9.6         362         362         446         597         403         867           36         869         9.68 006         .88         798         349   | 24  | 562     | 726      | .40  | 965     | 431         |      | 070     | 295      | .52  | 705      | 495        | 30  |
| 26         614         773         987         417         145         356         644         469           27         639         796         .40         923         410         .10         183         386         614         466           28         665         820         .88         909         404         .12         220         416         584         443           29         600         843         896         397         258         446         554         430           30         47716         9.67 866         .40         .87 882         9.94 390         .12         .54 296         9.73 476         .52         0.26 524         1.8418           31         741         890         .38         868         383         333         507         .50         .493         405           32         767         913         854         376         871         557         .403         892           34         818         959         9.6         362         362         446         597         403         867           36         869         9.68 006         .88         798         349   | 25  | 588     | 750      | 38   | 951     | 424         |      | 107     | 326      | .50  | 674      | 482        | 3   |
| 27         639         796         .40         928         410         .10         188         386         614         456           28         665         820         .88         909         404         .12         220         416         554         448           30         .47 716         9.67 866         .40         .87 882         9.94 390         .12         .54 296         9.73 476         .52         0.26 524         1.8418           31         741         890         .88         868         383         383         507         .50         493         405           32         767         913         854         376         871         537         463         892           34         818         959         826         362         446         597         403         867           35         844         982         .40         812         355         .10         484         627         373         854           36         869         9.68 006         .88         798         349         .12         522         657         343         341           37         895         629   |     |         |          | .00  | )       |             |      | 1       |          | .00  |          |            | 3.  |
| 28         665         820         .88         900         404         .12         220         416         584         448           29         600         843         596         397         268         446         554         448           30         .47 716         9.67 866         .40         .87 882         9.94 390         .12         .54 296         9.73 476         .52         0.26 524         1.8418           31         741         890         .88         568         383         383         507         .50         .493         405           32         767         913         854         376         871         537         .463         892           33         793         936         840         369         409         567         .433         892           35         844         982         .40         812         355         .10         484         627         373         364           36         869         9.68 006         .88         798         349         .12         566         328         685         747         223         313         381           37         805  |     |         |          | 40   | 1       |             | 10   | 1       |          |      |          |            | 3   |
| 29         690         843         896         397         258         446         554         480           30         .47 716         9.67 866         .40         .87 882         9.94 390         .12         .54 296         9.73 476         .52         0.26 524         1.8418           31         741         890         .88         868         383         383         507         .50         493         405           32         767         913         854         376         871         537         463         892           33         793         936         840         369         409         567         433         879           34         815         959         826         362         446         597         403         867           35         844         982         .40         812         355         .10         484         627         373         854           36         869         9.68 006         .88         798         349         .12         522         657         343         841           37         885         029         784         342         560         687   |     |         |          |      | 1       |             |      | (       |          |      |          |            | 3   |
| 30         .47 716         9.67 866         .40         .87 882         9.94 390         .12         .54 296         9.73 476         .52         0.26 524         1.8418           31         741         890         .88         868         383         333         507         .50         493         405           32         767         913         854         376         871         537         463         892           34         818         959         826         362         446         597         403         867           35         844         982         .40         812         355         .10         484         627         373         854           36         869         9.68 006         .88         798         349         .12         522         657         343         841           37         895         029         784         342         566         687         313         829           38         920         052         770         335         597         717         283         816           40         .47 971         9.68 098         .88         5743         9.94         32   |     |         |          | .05  | 1       |             | .12  |         |          |      |          |            | 3   |
| 31         741         890         .88         868         383         507         .50         493         405           32         767         913         854         376         871         537         463         892           34         818         959         826         362         446         597         403         867           35         844         982         .40         812         355         .10         484         627         373         854           36         869         9.68 006         .85         798         349         .12         592         657         343         841           36         869         9.68 006         .85         798         349         .12         592         657         343         841           37         895         0.92         784         342         560         687         313         329           38         920         0.52         770         335         597         717         283         316           40         .47 971         9.68 0.98         .88         57 48         9.94 321         .12         .54 673         9.73 777   | 29  | 090     |          |      |         |             |      |         |          |      |          |            |     |
| 32         767         913         854         376         871         537         463         892           33         793         936         840         369         409         567         433         879           34         818         959         826         362         446         597         403         867           35         844         982         .40         812         355         .10         484         627         373         854           36         869         9.68 006         .88         798         349         .12         592         657         343         341           37         895         029         784         342         560         687         313         329           38         920         052         770         335         597         717         283         816           40         .47 971         9.68 098         .88         57 448         9.94 321         .12         .54 673         9.73 777         .50         0.26 223         1.8291           41         997         121         715         307         748         837         163         286     <  | 30  | .47 716 |          | .40  | .87 882 |             | .12  |         |          |      |          |            | 3   |
| 33         793         936         840         369         409         567         433         879           34         818         959         826         362         446         597         403         867           35         844         982         .40         812         355         .10         484         627         373         854           36         869         9.68 006         .88         798         349         .12         522         657         343         341           37         895         029         754         342         560         687         313         829           38         920         052         770         335         597         717         283         816           39         946         075         756         328         635         747         253         808           40         .47971         .968 098         .88         .8743         9.94 321         .12         .5463         9.73 777         .50         0.26 223         1.8291           41         997         121         713         9.94         321         12         .5463         9.73 777   | 31  | 741     |          | .38  | 868     |             |      | 1       |          | .50  |          |            | 2   |
| 34         \$18         959         \$26         362         446         597         403         367           35         \$44         982         .40         \$12         355         .10         484         627         373         854           36         \$69         9.68 006         .88         798         349         .12         522         657         343         341           37         \$95         029         784         342         560         687         313         329           38         \$20         052         770         335         597         717         283         816           39         946         075         756         328         635         747         253         308           40         .47 971         9.68 098         .88         .57 743         9.94 321         .12         .54 673         9.73 777         .50         0.26 223         1.8291           41         997         121         729         314         711         807         193         278           42         .48 022         144         715         307         748         837         163         265  | 32  | 767     | 913      |      | 854     | 376         |      | 371     |          |      |          | 392        | 2   |
| 35         844         982         .40         812         355         .10         484         627         373         854           36         869         9.68 006         .38         798         349         .12         522         657         343         841           37         895         029         754         342         560         687         313         829           38         920         052         770         335         597         717         283         816           39         946         075         756         328         685         747         253         308           40         .47 971         9.68 098         .38         .87 748         9.94 321         .12         .54 673         9.73 777         .50         0.26 223         1.8291           41         997         121         729         314         711         807         193         278           42         .48 022         144         715         307         748         837         163         265           43         045         167         701         300         786         867         133         293   | 33  | 793     | 936      |      | 840     | 369         |      | 409     |          |      |          | 879        | 2   |
| 36         869         9.68 006         .88         798         349         .12         522         657         343         841           37         895         029         784         342         560         687         313         829           38         920         052         770         335         597         717         283         816           39         946         075         756         328         635         747         253         808           40         .47 971         9.68 098         .38         .87 748         9.94 321         .12         .34 673         9.73 777         .50         0.26 223         1.8291           41         997         121         729         314         711         807         193         278           42         .48 022         144         715         307         748         837         163         265           43         045         167         701         300         786         867         133         284           45         099         213         .40         673         286         862         927         073         228   | 34  | 818     | 959      |      | 826     | 362         |      | 446     | 597      |      | 403      | 367        | 2   |
| 36         869         9.68 006         .38         798         349         .12         522         657         343         841           37         895         029         784         342         560         687         313         829           38         920         052         770         335         597         717         283         816           39         946         075         756         328         685         747         253         808           40         .47 971         9.68 098         .88         .87 748         9.94 321         .12         .54 673         9.73 777         .50         0.26 223         1.8291           41         997         121         729         314         711         807         193         278           42         .48 022         144         715         307         748         837         163         265           43         045         167         701         300         786         867         133         286           44         073         190         687         293         824         897         103         202           45  | 25  | \$11    | 989      | 40   | 812     | 355         | 10   | 484     | 627      |      | 373      | 854        | 2   |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$   |     |         |          |      | 1       |             |      | 1       |          |      |          |            | 2   |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$  |     |         |          | .00  |         |             |      | 1       |          |      |          |            | 2   |
| 39         946         075         756         328         685         747         253         308           40         .47 971         9.68 098         .88         57 748         9.94 321         .12         .54 673         9.73 777         .50         0.26 223         1.8291           41         997         121         729         314         711         807         193         278           42         .48 022         144         715         307         748         837         163         265           43         045         167         701         300         786         867         133         258           44         073         190         687         293         824         897         103         240           45         099         213         .40         673         286         862         927         073         228           46         124         237         .38         659         279         .10         900         957         043         215           47         150         260         645         273         .12         938         987         013         202 </td <td></td> <td></td> <td></td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2</td>  |     |         |          |      | 1       |             |      |         |          |      |          |            | 2   |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$  |     |         |          |      | ,       |             |      | 1       |          |      |          |            | 2   |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$   |     |         |          |      | -       |             |      | 1       |          |      |          |            | 1   |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$   |     |         |          | .38  | 1       |             | .12  | 1       |          | .50  |          |            | 2   |
| 43         045         167         701         300         786         867         133         258           44         073         190         687         293         824         897         103         240           45         099         213         .40         673         286         862         927         073         228           46         124         237         .38         659         279         .10         900         957         043         215           47         150         260         645         273         .12         938         987         013         202           48         175         283         .37         631         266         975         9.74         017         0.25         983         190           49         201         305         .38         .617         259         .55         013         047         953         177           50         .48         226         9.68         328         .87         603         9.94         252         .12         .55         051         9.74         077         .50         0.25         923         187   |     |         |          |      | 1       |             |      | 1       |          |      |          |            | 1   |
| 44         073         190         657         293         824         897         103         240           45         099         213         .40         673         286         862         927         073         228           46         124         237         .38         659         279         .10         900         957         043         215           47         150         260         645         273         .12         938         987         013         202           48         175         283         .37         631         266         975         9.74         017         0.25         983         190           49         201         305         .38         617         259         .55         013         047         953         177           50         .48         226         9.68         328         .88         .87         603         9.94         252         .12         .55         051         9.74         077         .50         0.25         923         1.8165           51         252         351         559         245         089         107         .50 <td< td=""><td></td><td></td><td></td><td></td><td>l .</td><td></td><td></td><td>1</td><td></td><td></td><td></td><td></td><td>1</td></td<>   |     |         |          |      | l .     |             |      | 1       |          |      |          |            | 1   |
| 45         099         213         .40         673         286         862         927         073         228           46         124         237         .38         659         279         .10         900         957         043         215           47         150         260         645         273         .12         988         987         013         202           48         175         283         .37         631         266         975         9.74         017         0.25         983         190           49         201         305         .38         617         259         .55         018         047         953         177           50         .48         226         9.68         328         .88         .87         603         9.94         252         .12         .55         051         9.74         077         .50         0.25         923         1.8165           51         252         351         559         245         089         107         893         152         277         374         575         238         127         137         48         863         140   | 1   |         |          |      | l .     |             |      | 1       |          |      |          |            | 1   |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$   | 44  | 073     | 190      |      | 687     | 293         |      | 824     | 897      |      | 103      | 240        | 1   |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$   | 45  | 099     | 213      | .40  | 673     | 286         |      | 862     | 927      |      | 073      | 228        | 1.  |
| 47         150         260         645         273         .12         988         987         013         202           48         175         283         .37         631         266         975         9.74         017         0.25         983         190           49         201         305         .38         617         259         .55         018         047         953         177           50         .48         226         9.68         328         .88         .87         603         9.94         252         .12         .55         051         9.74         077         .50         0.25         923         1.8165           51         252         351         589         245         089         107         893         152           52         277         374         575         238         127         137         .48         863         140           53         363         397         561         231         165         166         .50         834         127           54         325         420         546         224         203         196         804         115   |     |         |          |      |         |             | .10  |         |          |      |          |            | 1.  |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$  |     | 1       |          | .00  | l .     |             |      | 1       |          |      |          |            | 1   |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$  |     |         |          | .27  |         |             | ,    |         |          |      |          |            | 1   |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$   |     | i .     |          |      | 1       |             |      | 1       |          |      |          |            | 1   |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$  |     |         |          |      | 1       |             |      |         |          | *0   |          |            | 1   |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$  |     | 1       |          | .38  | 1       |             | .12  | 1       |          | .50  |          |            | 1   |
| 53         303         397         561         231         165         166         .50         834         127           54         328         420         546         224         203         196         804         115           55         354         443         532         217         241         226         774         103           56         379         466         518         210         279         256         744         090           57         405         489         504         203         317         286         714         075           58         430         512         .37         490         196         355         316         .48         684         065           59         456         534         .38         476         189         393         345         .50         655         053           60         .48 481         9.68 557         .87 462         9.94 182         .55 431         9.74 375         0.25 625         1.8040   |     | 1       |          |      |         |             |      |         |          |      |          |            |     |
| 54         325         420         546         224         203         196         804         115           55         354         443         532         217         241         226         774         103           56         379         466         518         210         279         256         744         090           57         405         489         504         203         317         286         714         078           58         430         512         .37         490         196         355         316         .48         684         065           59         456         534         .38         476         189         393         345         .50         655         053           60         .48 481         9.68 557         .87 462         9.94 182         .55 431         9.74 375         0.25 625         1.8040  |     | ı       |          |      |         |             |      | 1       |          |      |          |            |     |
| 55         854         443         532         217         241         226         774         103           56         879         466         518         210         279         256         744         090           57         405         489         504         203         317         286         714         078           58         430         512         .37         490         196         355         316         .48         684         065           59         456         534         .38         476         189         393         345         .50         655         053           60         .48 481         9.68 557         .87 462         9.94 182         .55 431         9.74 375         0.25 625         1.8040   |     |         |          |      |         |             |      | 1       |          | .50  |          |            |     |
| 56         379         466         518         210         279         256         744         090           57         405         489         504         203         317         286         714         078           58         430         512         .37         490         196         355         316         .48         684         065           59         456         534         .38         476         189         393         345         .50         655         053           60         .48 481         9.68 557         .87 462         9.94 182         .55 431         9.74 375         0.25 625         1.8040  | 54  | 325     | 420      |      | 546     | 224         |      | 203     | 196      |      | 804      | $\sim$ 115 |     |
| 56         379         466         518         210         279         256         744         090           57         405         489         504         203         317         286         714         078           58         430         512         .37         490         196         355         316         .48         684         065           59         456         534         .38         476         189         393         345         .50         655         053           60         .48 481         9.68 557         .87 462         9.94 182         .55 431         9.74 375         0.25 625         1.8040  | 55  | 354     | 443      |      | 532     | 217         |      | 241     | 226      |      | 774      | 103        |     |
| 57         405         489         504         203         317         286         714         078           58         430         512         .37         490         196         355         316         .48         684         065           59         456         534         .38         476         189         393         345         .50         655         053           60         .48 481         9.68 557         .87 462         9.94 182         .55 431         9.74 375         0.25 625         1.8040   |     | £ .     |          |      |         |             |      | 1       |          |      |          |            |     |
| 58         430         512         .37         490         196         355         316         .48         684         065           59         456         534         .38         476         189         393         345         .50         655         053           60         .48         481         9.68         557         .87         462         9.94         182         .55         431         9.74         375         0.25         625         1.8040  |     |         |          |      | 1       |             |      | 1       |          |      |          |            |     |
| 59     456     534     .38     476     189     393     345     .50     655     058       60     .48     481     9.68     557     .87     462     9.94     182     .55     431     9.74     375     0.25     625     1.8040   |     |         |          | .37  |         |             |      | 1       |          | .48  |          |            |     |
| 60 .48 481 9.68 557 .87 462 9.94 182 .55 431 9.74 375 0.25 625 1.8040  |     | 1       |          |      |         |             |      |         |          |      |          |            |     |
|  |     |         |          | .00  |         |             |      |         |          |      |          |            |     |
|  |     |         |          |      |         |             |      |         |          |      |          |            |     |
| 18° Nat. Log. Dif. Nat. Log. Dif. Nat. Log. Dif. Log. Nat. Cotangents. Tangents.   | 18° | Nat.    | Log.     | Dif. | Nat.    | Log.        | Dif. | Nat.    | Log.     | Dif. |          | Nat.       | 6   |

| $29^{\circ}$ |         | SINES.                                |      |         | Cosines.         |      | TAN     | GENTS.      |         | COTAN                                     | GENTS.        | 150      |
|--------------|---------|---------------------------------------|------|---------|------------------|------|---------|-------------|---------|---|---------------|----------|
|              | Nat.    | Log.                                  | Dif. | Nat.    | Log.             | Dif. | Nat.    | Log.        | Dif.    | Log.                                      | Nat.          | 130      |
| 0'           | .48 481 | 9.68 557                              | .38  | .87 462 | 9.94 182         | .12  | .55 431 | 9.74 375    | .50     | 0.25 625                                  | 1 0010        | 1 00     |
| 1            | 506     | 580                                   |      | 448     | 175              | •12  | 469     | 405         | .50     | 595                                       | 1.8040<br>028 | 60<br>59 |
| 2            | 532     | 603                                   | .37  | 434     | 168              |      | 507     | 435         |         | 565                                       | 016           | 58       |
| 3            | 557     | 625                                   | .38  | 420     | 161              |      | 545     | 465         | .48     | 535                                       |               | 57       |
| 4            | 583     | 648                                   |      | 406     | 154              |      | 583     | 494         | .50     | 506                                       | 800           | 56       |
| 5            | 608     | 671                                   |      |         |                  |      | 1       |             | .00     |   | 1.7991        | 1        |
| 6            | 634     | 694                                   | 0=   | 391     | 147              |      | 621     | 524         |         | 476                                       | 979           | 55       |
| 7            | 659     | 716                                   | .37  | 377     | 140              |      | 659     | 554         | .48     | 446                                       | 966           | 54       |
| 8            | 1       |                                       | .38  | 363     | 133              |      | 697     | 583         | .50     | 417                                       | 954           | 53       |
| 9            | 684     | 739                                   | 05   | 349     | 126              |      | 736     | 613         |         | 387                                       | 942           | 52       |
| 9            | 710     | 762                                   | .37  | 835     | 119              |      | 774     | 643         |         | 357                                       | 930           | 51       |
| 10           | .48 735 | 9.68784                               | .38  | .87 321 | $9.94\ 112$      | .12  | .55 812 | 9.74673     | .48     | $0.25\ 327$                               | 1.7917        | 50       |
| 11           | 761     | 807                                   | .37  | 306     | 105              |      | 850     | 702         | .50     | 298                                       | 905           | 49       |
| 12           | 786     | 829                                   | .38  | 292     | 098              | .13  | 888     | 732         |         | 268                                       | 893           | 48       |
| 13           | 811     | 852                                   |      | 278     | 090              | .12  | 926     | 762         | .48     | 238                                       | 881           | 47       |
| 14           | 837     | 875                                   | .37  | 264     | 083              |      | 964     | 791         | .50     | 209                                       | 868           | 46       |
| 15           | 862     | 897                                   | .38  | 250     |                  |      |         |             | .00     |   |               | 1        |
|              | 888     | 920                                   |      |         | 076              |      | .56 003 | 821         |         | 179                                       | 856           | 45       |
| 16<br>17     |         | 942                                   | .37  | 235     | 069              |      | 041     | 851         | .48     | 149                                       | 844           | 44       |
|              | 913     |                                       | .38  | 221     | 062              |      | 079     | 880         | .50     | 120                                       | 832           | 43       |
| 18           | 938     | 965                                   | .37  | 207     | 055              |      | 117     | 910         | .48     | 090                                       | 820           | 42       |
| 19           | 964     | 987                                   | .38  | 193     | 048              |      | 156     | 939         | .50     | 061                                       | 808           | 41       |
| 20           | .48 989 | $9.69\ 010$                           | .37  | .87 178 | 9.94041          | .12  | .56 194 | 9.74969     | .48     | $0.25\ 031$                               | 1.7796        | 40       |
| 21           | .49 014 | 032                                   | .38  | 164     | 034              |      | 232     | 998         | .50     | 002                                       | 783           | 35       |
| 22           | 040     | 055                                   | .37  | 150     | 027              |      | 270     | 9.75 028    |         | 0.24972                                   | 771           | 38       |
| 23           | 065     | 077                                   | .38  | 136     | 020              | .13  | 309     | 058         | .48     | 942                                       | 759           | 37       |
| 24           | 090     | 100                                   | .37  | 121     | 012              | .12  | 347     | 087         | .50     | 913                                       | 747           | 36       |
| 25           | 116     | 122                                   |      | 107     | 005              |      |         |             |         |   |               | 1        |
| 26           | 1       | 144                                   | 90   |         | $005 \\ 9.93998$ |      | 385     | 117         | .48     | 883                                       | 735           | 35       |
|              | 141     |                                       | .38  | 098     |                  |      | 424     | 146         | .50     | 854                                       | 723           | 34       |
| 27           | 166     | 167                                   | .37  | 079     | 991              |      | 462     | 176         | .48     | 824                                       | 711           | 33       |
| 28           | 192     | 189                                   | .38  | 064     | 984              |      | 501     | 205         | .50     | 795                                       | 699           | 32       |
| 29           | 217     | 212                                   | .37  | 050     | 977              |      | 539     | 235         | .48     | 765                                       | 687           | 31       |
| 30           | .49 242 | 9.69 234                              | .37  | .87 036 | 9.93970          | .12  | .56 577 | 9.75 264    | .50     | 0.24736                                   | 1.7675        | 30       |
| 31           | 268     | 256                                   | .38  | 021     | 963              | .13  | 616     | 294         | .48     | 706                                       | 663           | 29       |
| 32           | 293     | 279                                   | .37  | 007     | 955              | .12  | 654     | 323         | .50     | 677                                       | 651           | 28       |
| 33           | 318     | 301                                   |      | .86 993 | 948              |      | 693     | 353         | .48     | 647                                       | 639           | 27       |
| 34           | 344     | 323                                   |      | 978     | 941              |      | 731     | 382         | • • • • | 618                                       | 627           | 26       |
| ]            |         |                                       |      | į.      |                  |      | 1       |             |         |   |               |          |
| 35           | 369     | 345                                   | .38  | 964     | 934              |      | 769     | 411         | .50     | 589                                       | 615           | 25       |
| 36           | 394     | 368                                   | .37  | 949     | 927              |      | 808     | 441         | .48     | 559                                       | 603           | 24       |
| 37           | 419     | 390                                   |      | 935     | 920              | .13  | 846     | 470         | .50     | 530                                       | 591           | 23       |
| 38           | 445     | 412                                   |      | 921     | 912              | .12  | 885     | 500         | .48     | 500                                       | 579           | 22       |
| 39           | 470     | 434                                   |      | 906     | 905              |      | 923     | $\bf 529$   |         | 471                                       | 567           | 21       |
| 40           | .49 495 | 9.69 456                              | .38  | .86 892 | 9.93 898         | .12  | .56 962 | 9.75558     | .50     | $0.24\ 442$                               | 1.7556        | 20       |
| 41           | 521     | 479                                   | .37  | 878     | 891              |      | .57 000 | 588         | .48     | 412                                       | 544           | 19       |
| 42           | 546     | 501                                   |      | 863     | 884              | .13  | 039     | 617         | .50     | 383                                       | 532           | 18       |
| 43           | 571     | 523                                   |      | 849     | 876              | .12  | 078     | 647         | .48     | 353                                       | 520           | 17       |
| 44           | 596     | 545                                   |      | 834     | 869              | .12  | 116     | 676         | .40     | $\begin{array}{c} 333 \\ 324 \end{array}$ | 508           | 16       |
|              |         |                                       |      |         |                  |      |         |             |         |   |               |          |
| 45           | 622     | 567                                   |      | 820     | 862              |      | 155     | 705         | .50     | 295                                       | 496           | 15       |
| 46           | 647     | 589                                   |      | 805     | 855              | .13  | 193     | 735         | .48     | $\bf 265$                                 | 485           | 14       |
| 47           | 672     | 611                                   |      | 791     | 847              | .12  | 232     | 764         |         | 236                                       | 473           | 13       |
| 48           | 697     | 633                                   |      | 777     | 840              |      | 271     | 793         |         | 207                                       | 461           | 12       |
| 49           | 723     | 655                                   |      | 762     | 833              |      | 309     | 822         | .50     | 178                                       | 449           | 11       |
| 50           | .49 748 | 9.69 677                              | .87  | .86 748 | 9.93 826         | .12  | .57 348 | 9.75 852    | .48     | 0.24 148                                  | 1.7437        | 10       |
| 51           | 773     | 699                                   | .01  | 733     | 819              | .13  | 386     | 881         | .40     | 119                                       |               | 9        |
| 52           | 798     | $\begin{array}{c} 33\\721\end{array}$ |      | 719     | 811              | .12  | 425     | 910         |         | 090                                       | 426           | 8        |
| 53           |         | 743                                   | l    | 704     | 804              | .12  | 464     | 939         | ĸn      | 061                                       | 414           | 7        |
|              | 824     |                                       |      |         | 797              | 10   |         |             | .50     |   | 402           |          |
| 54           | 849     | 765                                   |      | 690     |                  | .13  | 503     | 969         | .48     | 031                                       | 391           | 6        |
| 55           | 874     | 787                                   |      | 675     | 789              | .12  | 541     | 998         |         | 002                                       | 379           | 5        |
| 56           | 899     | 809                                   |      | 661     | 782              |      | 580     | 9.76027     |         | 0.23973                                   | 367           | 4        |
| 57           | 924     | 831                                   |      | 646     | 775              |      | 619     | 056         | .50     | 944                                       | 855           | 3        |
| 58           | 950     | . 853                                 |      | 632     | 768              | .13  | 657     | 086         | .48     | 914                                       | 344           | 2        |
| 59           | 975     | 875                                   |      | 617     | 760              | .12  | 696     | 115         |         | 885                                       | 332           | 1        |
| 60           | .50 000 | 9.69 897                              |      | .86 603 | 9.93 753         |      | .57 735 | $9.76\ 144$ |         | 0.23 856                                  | 1.7321        | 0        |
| 100          | Nat.    | Log.                                  | Dif. | Nat.    | Log.             | Dif. | Nat.    | Log.        | Dif. •  | Log.                                      | Nat.          | 60       |
| $19^{\circ}$ |         | Cosines.                              |      |         | SINES.           |      | Corr    | NGENTS,     |         | TANGE                                     | NTE           | UU.      |
|              |         |                                       |      |         |                  |      |         |             |         |   |               |          |

| 30° |         | Sines.      |       |         | Cosines.    |      | TANG    | GENTS.      |        | Cotang       | ENTS.  | 149  |
|-----|---------|-------------|-------|---------|-------------|------|---------|-------------|--------|--------------|--------|------|
| 30  | Nat.    | Log.        | Dif.  | Nat.    | Log.        | Dif. | Nat.    | Log.        | Dif.   | Log.         | Nat.   | 140  |
|     |         |             |       |         |             |      |         |             |        |              |        | 2.0  |
| 0'  | .50 000 | 9.69 897    | .37   | .86 603 | 9.93 753    | .12  | .57 785 | $9.76\ 144$ | .48    | $0.23\ 856$  | 1.7321 | 60   |
| 1   | 025     | 919         |       | 588     | 746         | .13  | 774     | 173         |        | 827          | 309    | 59   |
| 2   | 050     | 941         |       | 573     | 738         | .12  | 813     | 202         |        | 798          | 297    | 58   |
| 3   | 076     | 963         | .35   | 559     | 731         |      | 851     | 231         | .50    | 769          | 286    | 57   |
| 4   | 101     | 984         | .37   | 544     | 724         |      | 890     | 261         | .48    | 739          | 274    | 56   |
| _   | 400     | 0.50.000    |       | ****    | 7.7         | 10   | 0.20    | 200         |        | F10          | 242    |      |
| 5   | 126     | 9.70 006    |       | 530     | 717         | .13  | 929     | 290         |        | 710          | 262    | 55   |
| 6   | 151     | 028         |       | 515     | 709         | .12  | 968     | 319         |        | 681          | 251    | 54   |
| 7   | 176     | 050         |       | 501     | 702         |      | .58 007 | 348         |        | <b>652</b>   | 239    | 53   |
| 8   | 201     | 072         | .35   | 486     | . 695       | .13  | 046     | 377         |        | 623          | 228    | 5 2  |
| 9   | 227     | 093         | .37   | 471     | 687         | .12  | 085     | 406         |        | 594          | 216    | 51   |
|     |         |             |       |         |             |      |         |             | 40     |              |        |      |
| 10  | .50 252 | 9.70 115    | .37   | .86 457 | 9.93 680    | .12  | .58 124 | 9.76 435    | .48    | 0.23 565     | 1.7205 | 50   |
| 11  | 277     | 137         |       | 442     | 673         | .13  | 162     | 464         |        | 536          | 193    | 49   |
| 12  | 302     | 159         | .35   | 427     | 665         | .12  | 201     | 493         |        | 507          | 182    | 48   |
| 13  | 327     | 180         | .37   | 413     | 658         | .13  | 240     | ${\bf 522}$ |        | 478          | 170    | 47   |
| 14  | 352     | 202         |       | 398     | 650         | .12  | 279     | 551         |        | 449          | 159    | 46   |
| i   |         |             |       |         |             |      |         |             |        |              |        |      |
| 15  | 377     | 224         | .35   | 384     | 643         |      | 318     | 580         |        | 420          | 147    | 45   |
| 16  | 403     | 245         | .37   | 369     | 636         | .13  | 357     | 609         | .50    | 391          | 136    | 44   |
| 17  | 428     | 267         | .35   | 854     | 628         | .12  | 396     | 639         | .48    | 361          | 124    | 43   |
| 18  | 453     | 288         | .37   | 340     | 621         |      | 435     | 668         |        | 332          | 113    | 42   |
| 19  | 478     | 310         | •     | 325     | 614         | .13  | 474     | 697         | .47    | 303          | 102    | 4    |
|     |         |             |       |         |             |      |         |             |        |              |        |      |
| 20  | .50 503 | $9.70\ 332$ | .35   | .86 310 | $9.93\ 606$ | .12  | .58 513 | 9.76725     | .48    | $0.23\ 275$  | 1.7090 | 40   |
| 21  | 528     | 353         | .37   | 295     | 599         | .13  | 552     | 754         |        | 246          | 079    | 35   |
| 22  | 553     | 375         | .35   | 281     | 591         | .12  | 591     | 783         |        | 217          | 067    | 38   |
| 23  | 578     | 396         | .37   | 266     | 584         |      | 631     | 812         |        | 188          | 056    | 37   |
|     | 603     | 418         | .35   | 251     | 577         | .13  | 670     | 841         |        | 159          | 045    | 36   |
| 24  | 600     |             | .00   |         |             |      |         |             |        |              |        | ŀ    |
| 25  | 628     | 439         | .37   | 237     | 569         | .12  | 709     | 870         |        | 130          | 033    | 35   |
| 26  | 654     | 461         | .35   | 222     | 562         | .13  | 748     | 899         |        | 101          | 022    | 34   |
| 27  | 679     | 482         | .37   | 207     | 554         | .12  | 787     | 928         |        | 072          | 011    | 33   |
|     | 704     | 504         | .35   | 192     | 547         | .13  | S26     | 957         |        | 043          | 1.6999 | 3:   |
| 28  |         |             |       |         |             |      | 1       |             |        |              |        |      |
| 29  | 729     | 525         | .37   | 178     | 539         | .12  | 865     | 986         |        | 014          | 988    | 31   |
| 30  | .50 754 | 9.70547     | .35   | .86 163 | $9.93\ 532$ | .12  | .58 905 | 9.77015     | .48    | 0.22985      | 1.6977 | 30   |
| 31  | 779     | 568         | .37   | 148     | 525         | .13  | 944     | 044         |        | 956          | 965    | 29   |
|     | 804     | 590         | .35   | 133     | 517         | .12  | 983     | 073         | .47    | 927          | 954    | 28   |
| 32  |         |             |       |         |             |      |         |             |        |              |        |      |
| 33  | 829     | 611         | .37   | 119     | 510         | .13  | .59 022 | 101         | .48    | 899          | 943    | 2    |
| 34  | 854     | 633         | .35   | 104     | 502         | .12  | 061     | 130         |        | 870          | 932    | 26   |
| 35  | 879     | 654         |       | 089     | 495         | .13  | 101     | 159         |        | 841          | 920    | 25   |
| 36  | 904     | 675         | .37   | 074     | 487         | .12  | 140     | 188         |        | 812          | 909    | 24   |
|     |         |             |       |         |             |      |         | 217         |        | 783          | 898    | 23   |
| 37  | 929     | 697         | .35   | 059     | 480         | .13  | 179     |             |        |              |        |      |
| 38  | 954     | 718         |       | 045     | 472         | .12  | 218     | 246         | .47    | 754          | 887    | 2:   |
| 39  | 979     | 739         | .37   | 030     | 465         | .13  | 258     | 274         | .48    | 726          | 875    | 2    |
| 40  | .51 004 | 9.70 761    | .35   | .86 015 | 9.93 457    | .12  | .59 297 | 9.77 303    | .48    | $0.22\ 697$  | 1.6864 | 20   |
|     |         | 782         | .00   | 000     | 450         | .13  | 336     | 332         | .10    | 668          | 853    | 1 19 |
| 41  | 029     |             |       |         |             |      | 1       |             |        |              |        | 1    |
| 42  | 054     | 803         |       | .85 985 | 442         | .12  | 376     | 361         |        | 639          | 842    | 18   |
| 43  | 079     | 824         | .37   | 970     | 435         | .13  | 415     | 390         | .47    | 610          | 831    | 1,   |
| 44  | 104     | 846         | .35   | 956     | 427         | .12  | 454     | 418         | .48    | 582          | 820    | 10   |
| 4.5 | 129     | 867         |       | 941     | 420         | 10   | 494     | 447         |        | 553          | 808    | 1:   |
| 45  |         |             |       | L.      |             | .13  |         |             |        |              |        | 1    |
| 46  | 154     | 888         |       | 926     | 412         | .12  | 533     | 476         |        | 524          | 797    | 14   |
| 47  | 179     | 909         | .87   | 911     | 405         | .13  | 573     | 505         | .47    | 495          | 786    | 13   |
| 48  | 204     | 931         | .35   | 896     | 397         | .12  | 612     | 533         | .48    | 467          | 775    | 1:   |
| 49  | 229     | 952         |       | 881     | 390         | .13  | 651     | 562         |        | 438          | 764    | 11   |
|     |         |             | 0.0   |         |             |      |         |             | 414    |              |        |      |
| 50  | .51 254 | 9.70 973    | .35   | .85 866 | 9.93 382    | .12  | .59 691 | 9.77 591    | .47    | $0.22\ 409$  | 1.6753 | 10   |
| 51  | 279     | 994         |       | 851     | 375         | .13  | 730     | 619         | .48    | 381          | 742    |      |
| 52  | 304     | 9.71  015   |       | 886     | 367         | .12  | 770     | 648         |        | 352          | 731    | 8    |
| 53  | 329     | 036         | .37   | 821     | 360         | .13  | 509     | 677         |        | 323          | 720    | 1    |
| 54  | 354     | 058         | .35   | 806     | 352         |      | 849     | 706         | .47    | 294          | 709    | (    |
|     |         |             | 4-547 |         |             |      |         |             |        |              |        |      |
| 55  | 379     | 079         |       | 792     | 344         | .12  | 888     | 734         | .48    | 266          | 698    | 1    |
| 56  | 404     | 100         |       | 777     | 337         | .13  | 928     | 763         | .47    | 237          | 687    | 4    |
| 57  | 429     | 121         |       | 762     | 329         | .12  | 967     | 791         | .48    | 209          | 676    | :    |
| 58  | 454     | 142         |       | 747     | 322         | .13  | .60 007 | 820         | -      | 180          | 665    | 1 :  |
| 59  | 479     | 163         |       | 732     | 314         | .12  | 046     | 849         | .47    | 151          | 654    | ]    |
|     | 419     |             |       | 102     |             | .12  |         |             | . ** ( |              |        |      |
| 60  | .51 504 | 9.71 184    |       | .85 717 | 9.93 307    |      | .60 086 | 9.77 877    |        | $-0.22\ 123$ | 1.6643 |      |
| 20° | Nat.    | Log.        | Dif.  | Nat.    | Log.        | Dif. | Nat.    | Log.        | Dif.   | Log.         | Nat.   | 59   |
|     |         |             |       |         |             |      |         |             |        |              |        |      |

| 31° | -       | SINES.                                    |      |            | Cosines.    |      | TAN     | GENTS.                                    |      | COTAN       | GENTS. | 148          |
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|     | Nat.    | Log.                                      | Dif. | Nat.       | Log.        | Dif. | Nat.    | Log.                                      | Dif. | Log.        | Nat.   | 140          |
| 0′  | .51 504 | 9.71 184                                  | .35  | .85 717    | 9.93 307    | .13  | .60 086 | 9.77 877                                  | .48  | 0.22 123    | 1.6648 | 60           |
| 1   | 529     | 205                                       |      | 702        | 299         |      | 126     | 906                                       | .10  | 094         | 632    | 59           |
| 2   | 554     | 226                                       |      | 687        | 291         | .12  | 165     | 935                                       | .47  | 065         | 621    | 58           |
| 3   | 579     | 247                                       |      | 672        | 284         | .13  | 205     | 963                                       | .48  | 037         | 610    | 57           |
| 4   | 604     | 268                                       |      | 657        | 276         | .12  | 245     | 992                                       | .47  | 008         | 599    | 56           |
| 5   | 628     | 289                                       |      | 642        |             |      |         |   |      |             |        |              |
| 6   | 653     | 310                                       |      |            | 269         | .13  | 284     | 9.78 020                                  | .48  | $0.21\ 980$ | 588    | 55           |
| 7   | 678     | 331                                       |      | 627        | 261         |      | 324     | 049                                       | .47  | 951         | 577    | 54           |
| 8   | 703     | 352                                       |      | 612        | 253         | .12  | 364     | 077                                       | .48  | 923         | 566    | 53           |
| 9   | 1       |   |      | 597        | 246         | .13  | 403     | 106                                       |      | 894         | 555    | 52           |
|     | 728     | 373                                       | .33  | 582        | 238         |      | 443     | 135                                       | .47  | 865         | 545    | 51           |
| 10  | .51 753 | $9.71\ 393$                               | .35  | .85 567    | 9.93230     | .12  | .60 483 | $9.78\ 163$                               | .48  | $0.21\ 837$ | 1.6534 | 50           |
| 11  | 778     | 414                                       |      | 551        | 223         | .13  | 522     | 192                                       | .47  | 808         | 523    | 49           |
| 12  | 803     | 435                                       |      | 536        | 215         |      | 562     | 220                                       | .48  | 780         | 512    | 48           |
| 13  | 828     | 456                                       |      | 521        | 207         | .12  | 602     | 249                                       | .47  | 751         | 501    | 47           |
| 14  | 852     | 477                                       |      | 506        | 200         | .13  | 642     | 277                                       | .48  | 723         | 490    | 46           |
| 15  | 877     | 498                                       |      | 491        | 192         |      |         |   |      |             |        | 1            |
| 16  | 902     | 519                                       | 99   |            |             | 10   | 681     | 306                                       | .47  | 694         | 479    | 4.5          |
| 17  | 902     | 539                                       | .33  | 476        | 184         | .12  | 721     | 334                                       | .48  | 666         | 469    | 44           |
| 18  |         |   | .35  | 461        | 177         | .13  | 761     | 363                                       | .47  | 637         | 458    | 48           |
| 19  | 952     | 560                                       |      | 446        | 169         |      | 801     | 391                                       |      | 609         | 447    | 42           |
|     | 977     | 581                                       |      | 431        | 161         | .12  | 841     | 419                                       | .48  | 581         | 436    | 41           |
| 20  | .52 002 | $9.71\ 602$                               | .33  | .85 416    | $9.93\ 154$ | .13  | .60 881 | 9.78448                                   | .47  | $0.21\ 552$ | 1.6426 | 4(           |
| 21  | 026     | 622                                       | .35  | 401        | 146         |      | 921     | 476                                       | .48  | 524         | 415    | 39           |
| 22  | 051     | 643                                       |      | 385        | 138         | .12  | 960     | 505                                       | .47  | 495         | 404    | 38           |
| 23  | 076     | 664                                       |      | 370        | 131         | .13  | .61 000 | 533                                       | .48  | 467         | 393    | 37           |
| 24  | 101     | 685                                       | .33  | 355        | 123         |      | 040     | 562                                       | .47  | 438         | 383    | 36           |
| 25  | 126     |   | 0.5  |            |             | 40   |         |   |      |             |        |              |
| 26  |         | 705                                       | .35  | 340        | 115         | .12  | 080     | 590                                       |      | 410         | 372    | 35           |
|     | 151     | 726                                       |      | 325        | 108         | .13  | 120     | 618                                       | .48  | 382         | 361    | 34           |
| 27  | 175     | 747                                       | .33  | 310        | 100         |      | 160     | 647                                       | .47  | 353         | 351    | 33           |
| 28  | 200     | 767                                       | .35  | 294        | 092         |      | 200     | 675                                       | .48  | 325         | 340    | 32           |
| 29  | 225     | 788                                       |      | 279        | 084         | .12  | 240     | 704                                       | .47  | 296         | 329    | 31           |
| 30  | .52 250 | 9.71 809                                  | .33  | .85 264    | 9.93 077    | .13  | .61 280 | 9.78 732                                  | .47  | $0.21\ 268$ | 1.6319 | 30           |
| 31  | 275     | 829                                       | .35  | 249        | 069         |      | 320     | 760                                       | .48  | 240         | 308    | 29           |
| 32  | 299     | 850                                       | .33  | 234        | 061         |      | 360     | 789                                       | .47  | 211         | 297    | 28           |
| 33  | 324     | 870                                       | .35  | 218        | 053         | .12  | 400     | 817                                       |      | 183         | 287    | 27           |
| 34  | 349     | 891                                       | .33  | 203        | 046         | .13  | 440     | 845                                       | .48  | 155         | 276    | 26           |
|     |         |   |      |            |             | •10  |         |   |      |             |        |              |
| 35  | 374     | 911                                       | .35  | 188        | 038         |      | 480     | 874                                       | .47  | 126         | 265    | 25           |
| 36  | 399     | 932                                       | .33  | 173        | 030         |      | 520     | 902                                       |      | 098         | 255    | 24           |
| 37  | 423     | 952                                       | .35  | 157        | 022         |      | 561     | 930                                       | .48  | 070         | 244    | 23           |
| 38  | 448     | 973                                       |      | 142        | 014         | .12  | 601     | 959                                       | .47  | 041         | 234    | 22           |
| 39  | 473     | 994                                       | .88  | 127        | 007         | .13  | 641     | 987                                       |      | 013         | 223    | 21           |
| 40  | .52 498 | 9.72014                                   | .33  | .85 112    | 9.92 999    | .13  | .61 681 | $9.79\ 015$                               | .47  | $0.20\ 985$ | 1.6212 | 20           |
| 41  | 522     | 034                                       | .35  | - 096      | 991         |      | 721     | 043                                       | .48  | 957         | 202    | 19           |
| 12  | 547     | 055                                       | .33  | 081        | 983         | .12  | 761     | 072                                       | .47  | 928         | 191    | 18           |
| 13  | 572     | 075                                       | .35  | 066        | 976         | .13  | 801     | 100                                       |      | 900         | 181    | 17           |
| 44  | 597     | 096                                       | .33  | 051        | 968         | .10  | 842     | 128                                       |      | 87 2        | 170    | 16           |
|     |         |   |      |            |             |      |         |   |      |             |        |              |
| 45  | 621     | 116                                       | .35  | 035        | 960         |      | 882     | 156                                       | .48  | 844         | 160    | 15           |
| 16  | 646     | 137                                       | .33  | 020        | 952         |      | 922     | 185                                       | .47  | 815         | 149    | 14           |
| 17  | 671     | 157                                       |      | 005        | 944         |      | 962     | 213                                       |      | 787         | 139    | 13           |
| 18  | 696     | 177                                       | .35  | .84 989    | 936         | .12  | .62 003 | 241                                       |      | 759         | 128    | 12           |
| 19  | 720     | 198                                       | .33  | 974        | 929         | .13  | 043     | 269                                       |      | 731         | 118    | 11           |
| 50  | .52 745 | 9.72 218                                  | .33  | .84 959    | 9.92 921    | .13  | .62 083 | 9.79 297                                  | .48  | 0.20 703    | 1.6107 | 10           |
| 51  | 770     | 238                                       | .35  | 943        | 913         | .10  | 124     | 326                                       | .47  | 674         | 097    | 9            |
| 52  | 794     | $\begin{array}{c} 259 \\ 259 \end{array}$ | .33  | 928        | 905         |      | 164     | $\begin{array}{c} 320 \\ 354 \end{array}$ |      | 646         | 087    | 8            |
| 53  |         | 279                                       | .00  | 928<br>913 | 897         |      | 204     | $\frac{334}{382}$                         |      |             |        | 7            |
|     | 819     |   | on   |            | 889         | . 13 |         |   |      | 618         | 076    |              |
| 54  | 844     | 299                                       | .35  | 897        |             |      | 245     | 410                                       |      | 590         | 066    | 6            |
| 55  | 869     | 320                                       | .83  | 882        | 881         | .12  | 285     | 438                                       |      | $^{'}562$   | 055    | 5            |
| 56  | 893     | 340                                       |      | 866        | 874         | .13  | 325     | 466                                       | .48  | 534         | 045    | 4            |
| 57  | 918     | 360                                       | .35  | 851        | 866         |      | 366     | 495                                       | .47  | 505         | 034    | 3            |
| 58  | 943     | 381                                       | .33  | 836        | 858         |      | 406     | 523                                       |      | 477         | 024    | 2            |
| 59  | 967     | 401                                       |      | 820        | 850         |      | 446     | 551                                       |      | 449         | 014    | 1            |
| 60  | .52 992 | 9.72 421                                  |      | .84 805    | 9.92842     |      | .62 487 | 9.79 579                                  |      | 0.20 421    | 1,6003 | 0            |
|     | 27      |   |      |            | -           | To a |         |   |      |             |        |              |
| 21° | Nat.    | Log.                                      | Dif. | Nat.       | Log.        | Dif. | Nat.    | Log.                                      | Dif. | Log.        | Nat.   | $58^{\circ}$ |
|     |         | Cosines.                                  |      |            | SINES.      | -    | COTA    | NGENTS.                                   |      | TANGE       | NOTE 1 |              |

| 32°       |         | SINES.      |      |         | Cosines.    |      | TAN     | GENTS.      |      | COTANG      | ENTS.  | 147 |
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| J 4       | Nat.    | Log.        | Dif. | Nat.    | Log.        | Dif. | Nat.    | Log.        | Dif. | Log.        | Nat.   | 141 |
| 0'        | .52 992 | 9.72 421    | .33  | .84 805 | 9.92 842    | .13  | .62 487 | 9.79 579    | .47  | 0.20 421    | 1.6003 | 60' |
| 1         | .53 017 | 441         |      | 789     | 834         | • 20 | 527     | 607         | •••  | 393         | 1.5993 | 59  |
| $\hat{2}$ | 041     | 461         | .35  | 774     | 826         |      | 568     | 635         |      | 365         | 983    | 58  |
| 3         | 066     | 482         | ,33  | 759     | 818         |      | 608     | 663         |      | 337         | 972    | 57  |
| 4         | 091     | 502         |      | 743     | 810         | .12  | 649     | 691         |      | 309         | 962    | 56  |
|           |         |             |      |         |             |      |         |             |      |             |        | 1   |
| 5         | 115     | 522         |      | 728     | 803         | .13  | 689     | 719         |      | 281         | 952    | 55  |
| 6         | 140     | 542         |      | 712     | 795         |      | 730     | 747         | .48  | 253         | 941    | 54  |
| 7         | 164     | 562         |      | 697     | 787         |      | 770     | 776         | .47  | 224         | 931    | 53  |
| 8         | 189     | 582         |      | 681     | 779         |      | 811     | 804         |      | 196         | 921    | 52  |
| 9         | 214     | 602         |      | 666     | 771         |      | 852     | 832         |      | 168         | 911    | 51  |
| 10        | .53 238 | 9.72 622    | .35  | .84 650 | 9.92 763    | .13  | .62 892 | 9.79 860    | .47  | 0.20 140    | 1.5900 | 50  |
| 11        | 263     | 643         | .33  | 635     | 755         |      | 933     | 888         |      | 112         | 890    | 49  |
| 12        | 288     | 663         | .00  | 619     | 747         |      | 973     | 916         |      | 084         | 880    | 48  |
| 13        | 312     | 683         |      | 604     | 739         |      | .63 014 | 944         |      | 056         | 869    | 47  |
| 14        | 337     | 703         |      | 588     | 731         |      | 055     | 972         |      | 028         | 859    | 46  |
|           |         |             |      |         |             |      | 1       |             |      |             |        |     |
| 15        | 361     | 723         |      | 573     | 723         |      | 095     | $9.80\ 000$ |      | 000         | 849    | 45  |
| 16        | 386     | 743         |      | 557     | 715         |      | 136     | 028         |      | 0.19972     | 839    | 44  |
| 17        | 411     | 763         |      | 542     | 707         |      | 177     | 056         |      | 944         | 829    | 43  |
| 18        | 435     | 783         |      | 526     | 699         |      | 217     | 084         |      | 916         | 818    | 42  |
| 19        | 460     | 803         |      | 511     | 691         |      | 258     | 112         |      | 888         | 808    | 41  |
| 20        |         |             | .33  | 1       | 9,92 683    | .13  | .63 299 | 9.80 140    | .47  | 0.19 860    | 1.5798 | 40  |
|           | .53 484 | 9.72 823    | .55  | .84 495 |             | .18  | 1       |             |      |             |        | 39  |
| 21        | 509     | 843         |      | 480     | 675         |      | 340     | 168         | .45  | 832         | 788    |     |
| 22        | 534     | 863         |      | 464     | 667         |      | 380     | 195         | .47  | 805         | .778   | 38  |
| 23        | 558     | 883         | .32  | 448     | 659         |      | 421     | 223         |      | 777         | 768    | 37  |
| 24        | 583     | 902         | .33  | 433     | 651         |      | 462     | 251         |      | 749         | 757    | 36  |
| 25        | 607     | 922         |      | 417     | 643         |      | 503     | 279         |      | 721         | 747    | 35  |
| 26        | 632     | 942         |      | 402     | 635         |      | 544     | 307         |      | 693         | 737    | 34  |
| 27        | 656     | 962         |      | 386     | 627         |      | 584     | 335         |      | 665         | 727    | 33  |
| 28        | 681     | 982         |      | 370     | 619         |      | 625     | 363         |      | 637         | 717    | 32  |
| 29        | 705     | 9.73 002    |      | 355     | 611         |      | 666     | 391         |      | 609         | 707    | 31  |
|           |         |             |      | 1       |             |      |         |             |      |             |        |     |
| 30        | .53 730 | 9.73022     | .32  | .84 339 | $9.92\ 603$ | .13  | .63 707 | $9.80\ 419$ | .47  | $0.19\ 581$ | 1.5697 | 30  |
| 31        | 754     | 041         | .33  | 324     | 595         |      | 748     | 447         | .45  | 553         | 687    | 29  |
| 32        | 779     | 061         |      | 308     | 587         |      | 789     | 474         | .47  | 526         | 677    | 28  |
| 33        | 804     | 081         |      | 292     | 579         |      | 830     | 502         |      | 498         | 667    | 27  |
| 34        | 828     | 101         |      | 277     | 571         |      | 871     | 530         |      | 470         | 657    | 26  |
| 25        | 050     |             | 90   | 001     | 5.00        |      | 912     | 558         |      | 442         | 647    | 25  |
| 35        | 853     | 121         | .32  | 261     | 563         |      | 1       | 586         |      |             |        | 24  |
| 36        | 877     | 140         | .83  | 245     | 555         | .15  | 953     |             |      | 414         | 637    |     |
| 37        | 902     | 160         |      | 230     | 546         | .13  | 994     | 614         |      | 386         | 627    | 23  |
| 38        | 926     | 180         |      | 214     | 538         |      | .64 035 | 642         | .45  | 358         | 617    | 22  |
| 39        | 951     | 200         | .32  | 198     | 530         |      | 076     | 669         | .47  | 331         | 607    | 21  |
| 40        | .53 975 | $9.73\ 219$ | .33  | .84 182 | 9.92522     | .13  | .64 117 | 9.80697     | .47  | 0.19 303    | 1.5597 | 20  |
| 41        | .54 000 | 239         |      | 167     | 514         |      | 158     | 725         |      | 275         | 587    | 19  |
| 42        | 024     | 259         | .32  | 151     | 506         |      | 199     | 753         |      | 247         | 577    | 18  |
| 43        | 049     | 278         | .33  | 185     | 498         |      | 240     | 781         | .45  | 219         | 567    | 17  |
| 44        | 073     | 298         | .00  | 120     | 490         |      | 281     | 808         | .47  | 192         | 557    | 16  |
|           |         |             |      |         |             |      | 1       |             |      |             |        |     |
| 45        | 097     | 318         | .32  | 104     | 482         | .15  | 322     | 836         |      | 164         | 547    | 15  |
| 46        | 122     | 337         | .33  | 088     | 473         | .13  | 363     | 864         |      | 136         | 537    | 14  |
| 47        | 146     | 357         |      | 072     | 465         |      | 404     | 892         | .45  | 108         | 527    | 13  |
| 48        | 171     | 377         | .32  | 057     | 457         |      | 446     | 919         | .47  | 081         | 517    | 12  |
| 49        | 195     | 396         | .33  | 041     | 449         |      | 487     | 947         |      | 053         | 507    | 11  |
| 50        | .54 220 | 9.73 416    | .32  | .84 025 | 9.92 441    | .13  | .64 528 | 9.80 975    | .47  | 0.19 025    | 1.5497 | 10  |
| 51        | 244     | 435         | .33  | 009     | 433         | .10  | 569     | 9.81 003    | .45  | 0.13 023    | 487    | 9   |
|           |         | 455         |      | 1       |             | 4.8  | 1       | 9.81 003    | .45  | 970         | 477    | 8   |
| 52        | 269     |             | .32  | .83 994 | 425         | .15  | 610     |             | .44  | 942         |        | 7   |
| 53        | 293     | 474         | .33  | 978     | 416         | .13  | 652     | 058         | 10   |             | 468    | 6   |
| 54        | 317     | 494         | .32  | 962     | 408         |      | 693     | 086         | .45  | 914         | 458    | 1   |
| 55        | 342     | 513         | .33  | 946     | 400         |      | 784     | 113         | .47  | 887         | 448    | 5   |
| 56        | 366     | 533         | .32  | 930     | 392         |      | 775     | 141         |      | 859         | 438    | 4   |
| 57        | 391     | 552         | .33  | 915     | 384         |      | 817     | 169         | .45  | 831         | 428    | 3   |
| 58        | 415     | 572         | .32  | 899     | 376         | .15  | 858     | 196         | .47  | 804         | 418    | 2   |
| 59        | 440     | 591         | .33  | 583     | 367         | .13  | 899     | 224         |      | 776         | 408    | 1   |
| 60        | .54 464 | 9.73 611    |      | .83 867 | 9.92 359    |      | .64 941 | 9.81 252    |      | 0.18 748    | 1.5399 | 0   |
|           | 1 27.4  | Log.        | Dif. | Nat.    | Log.        | Dif. | Nat.    | Log.        | Dif. | Log.        | Nat.   | 57  |
| 1000      | Nat.    |             |      |         |             |      |         |             |      |             |        |     |
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| 33°          |                | SINES.             |      |                | Cosines.                                  |            | TAN            | GENTS.                                    |            | Cotan             | GENTS.     | 146      |
|--------------|----------------|--------------------|------|----------------|---|------------|----------------|---|------------|-------------------|------------|----------|
|              | Nat.           | Log.               | Dif. | Nat.           | Log.                                      | Dif.       | Nat.           | Log.                                      | Dif.       | Log.              | Nat.       | 140      |
| 0'           | .54 464        | 9.73 611           | .32  | .83 867        | 9.92 359                                  | .13        | .64 941        | 9.81 252                                  | .45        | 0.18 748          | 1.5399     | 60       |
| 1            | 488            | 630                | .33  | 851            | 351                                       |            | 982            | 279                                       | .47        | 721               | 389        | 59       |
| 2            | 513            | 650                | .32  | 835            | 343                                       |            | .65 024        | 307                                       |            | 693               | 379        | 58       |
| 3            | 537            | 669                | .33  | 819            | 335                                       | .15        | 065            | 335                                       | .45        | 665               | 369        | 57       |
| 4            | 561            | 689                | .32  | 804            | 326                                       | .13        | 106            | 362                                       | .47        | 638               | 359        | 56       |
| 5            | 586            | 708                |      | 788            | 318                                       |            | 148            | 390                                       |            | 610               | 350        | 55       |
| 6            | 610            | 727                | .33  | 772            | 310                                       |            | 189            | 418                                       | .45        | 582               | 340        | 54       |
| 7            | 635            | 747                | .32  | 756            | 302                                       | .15        | 231            | 445                                       | .47        | 555               | 330        | 53       |
| 8            | 659            | 766                |      | 740            | 293                                       | .13        | 272            | 473                                       | .45        | 527               | 320        | 52       |
| 9            | 683            | 785                | .33  | 724            | 285                                       |            | 314            | 500                                       | .47        | 500               | 311        | 51       |
| 10           | .54 708        | 9.73 805           | .32  | .83 708        | 9.92 277                                  | .13        | .65 355        | 9.81 528                                  | .47        | 0.18 472          | 1.5801     | 50       |
| 11           | 732            | 824                | .02  | 692            | 269                                       | .15        | 397            | 556                                       | .45        | 444               | 291        | 49       |
| 12           | 756            | 843                | .33  | 676            | 260                                       | .13        | 438            | 583                                       | .47        | 417               | 282        | 48       |
| 13           | 781            | 863                | .32  | 660            | 252                                       | •••        | 480            | 611                                       | .45        | 389               | 272        | 47       |
| 14           | 805            | 882                |      | 645            | 244                                       | .15        | 521            | 638                                       | .47        | 362               | 262        | 46       |
| 15           | 829            | 901                | 00   | 1              |   |            |                |   |            | ***               |            | 1        |
| 16           | 854            | 921                | .33  | 629            | 235                                       | .13        | 563            | 666                                       | .45        | 334               | 253        | 45       |
| 17           | 878            | 940                | ,.32 | 613<br>597     | $\frac{227}{219}$                         |            | 604<br>646     | 693                                       | .47        | 307               | 243        | 44       |
| 18           | 902            | 959                |      | 581            | 219                                       | 15         | 688            | 721                                       | .45        | 279               | 233        | 43       |
| 19           | 902            | 959<br>978         |      | 565            | $\begin{array}{c} 211 \\ 202 \end{array}$ | .15<br>.13 | 729            | $\frac{748}{776}$                         | .47        | 252               | 224        | 42       |
|              |                |                    | _    | 1              |   |            |                |   | .45        | 224               | 214        |          |
| 20           | 54 951         | 9.73 997           | .88  | .88 549        | 9.92 194                                  | .18        | .65 771        | 9.81 803                                  | .47        | 0.18 197          | 1.5204     | 40       |
| 21           | 975            | 9.74 017           | .32  | 588            | . 186                                     | .15        | 813            | 831                                       | .45        | 169               | 195        | 39       |
| 22           | 999            | 036                |      | 517            | 177                                       | .18        | 854            | 858                                       | .47        | 142               | 185        | 38       |
| 23           | .55 024        | 055                |      | 501            | 169                                       |            | 896            | 886                                       | .45        | 114               | 175        | 37       |
| 24           | 048            | 074                |      | 485            | 161                                       | .15        | 938            | 913                                       | .47        | 087               | 166        | 36       |
| 25           | 072            | 093                | .33  | 469            | 152                                       | .13        | 980            | 941                                       | .45        | 059               | 156        | 35       |
| 26           | 097            | 113                | .32  | 453            | 144                                       |            | .66 021        | 968                                       | .47        | 032               | 147        | 34       |
| 27           | 121            | 132                |      | 437            | 136                                       | .15        | 063            | 996                                       | .45        | 004               | 137        | 33       |
| 28           | 145            | 151                |      | 421            | 127                                       | .13        | 105            | $9.82\ 023$                               | .47        | 0.17977           | 127        | 32       |
| 29           | 169            | 170                |      | 405            | 119                                       |            | 147            | 051                                       | .45        | 949               | 118        | 31       |
| 30           | .55 194        | 9.74 189           | .32  | .83 389        | $9.92\ 111$                               | .15        | .66 189        | 9.82078                                   | .47        | 0.17922           | 1.5108     | 30       |
| 31           | 218            | 208                |      | 373            | 102                                       | .13        | 230            | 106                                       | .45        | 894               | 099        | 29       |
| 32           | 242            | 227                |      | 856            | 094                                       |            | 272            | 133                                       | .47        | 867               | 089        | 28       |
| 33           | 266            | 246                |      | 340            | 086                                       | .15        | 314            | 161                                       | .45        | 839               | 080        | 27       |
| 34           | 291            | 265                |      | 324            | 077                                       | .13        | 356            | 188                                       |            | 812               | 070        | 26       |
| 35           | 315            | 284                |      | 308            | 069                                       | .15        | 398            | 215                                       | .47        | . 785             | 061        | 25       |
| 36           | 339            | 303                |      | 292            | 060                                       | .13        | 440            | 243                                       | .45        | 757               | 051        | 24       |
| 37           | 363            | 322                |      | 276            | 052                                       | .13        | 482            | 270                                       | .47        | 730               | 042        | 23       |
| 38           | 388            | 341                |      | 260            | 044                                       | .15        | 524            | 298                                       | .45        | 702               | 032        | 22       |
| 39           | 412            | 360                |      | 244            | 035                                       | .13        | 566            | 325                                       | •          | 675               | 023        | 21       |
| 40           |                |                    | 00   |                |   |            |                |   | 45-        |                   |            | ı        |
| 40           | .55 436<br>460 | $9.74\ 379$ $398$  | .32  | .83 228<br>212 | $9.92\ 027$ $018$                         | .15<br>.13 | .66 608<br>650 | $9.82\ 352$ $380$                         | .47<br>.45 | 0.17 648          | 1.5013     | 20<br>19 |
| 41           | 460<br>484     | 398<br>417         |      | 195            | 018                                       | .13        | 690<br>692     | 380<br>407                                | .45<br>.47 | $\frac{620}{593}$ | 004        | 18       |
| 43           | 509            | 417                |      | 179            | 002                                       | 15         | 1              | 435                                       | .45        | 565               | 1.4994     | 17       |
| 43           | 583            | 455                |      | 163            | 9.91 993                                  | .15<br>.13 | 734<br>776     | $\begin{array}{c} 435 \\ 462 \end{array}$ | .40        | 538               | 985<br>975 | 16       |
|              |                |                    |      |                |   |            |                |   |            |                   |            | ı        |
| 45           | 557            | 474                |      | 147            | 985                                       | .15        | 818            | 489                                       | .47        | 511               | 966        | 15       |
| 46           | 581            | 493                |      | 131            | 976                                       | .13        | 860            | 517                                       | .45        | 483               | 957        | 14       |
| 47           | 605            | 512                |      | 115            | 968                                       | .15        | 902            | 544                                       |            | 456               | 947        | 13       |
| 48           | 630            | 531                | .30  | 098            | 959                                       | .13        | 944            | 571                                       | .47        | 429               | 938        | 12       |
| 49           | 654            | 549                | .32  | 082            | 951                                       | .15        | 986            | 599                                       | .45        | 401               | 928        | 11       |
| 50           | .55678         | $9.74\ 568$        | .32  | .83 066        | $9.91\ 942$                               | .13        | .67 028        | $9.82\ 626$                               | .45        | $0.17\ 374$       | 1.4919     | 10       |
| 51           | 702            | 587                |      | 050            | 934                                       | .15        | 071            | 653                                       | .47        | 347               | 910        | 9        |
| 52           | 726            | 606                |      | 034            | <b>925</b>                                | .13        | 113            | 681                                       | .45        | 319               | 900        | 8        |
| 53           | 750            | $\boldsymbol{625}$ |      | 017            | 917                                       | .15        | 155            | 708                                       |            | 292               | 891        | 7        |
| 54           | 775            | 644                | .30  | 001            | 908                                       | .13        | 197            | 735                                       |            | 265               | 882        | 6        |
| 55           | 799            | 662                | .32  | .82 985        | 900                                       | .15        | 239            | 762                                       | .47        | 238               | 872        | 5        |
| 56           | 823            | 681                |      | 969            | 891                                       | .13        | 282            | 790                                       | .45        | 210               | 863        | 4        |
| 57           | 847            | 700                |      | 953            | 883                                       | .15        | 324            | 817                                       |            | 183               | 854        | 3        |
| 58           | 871            | 719                | .30  | 936            | 874                                       | .13        | 366            | 844                                       |            | 156               | 844        | 2        |
| 59           | 895            | 737                | .32  | 920            | 866                                       | .15        | 409            | 871                                       | .47        | 129               | 835        | 1        |
| 60           | .55 919        | 9.74 756           |      | .82 904        | 9.91 857                                  |            | .67 451        | 9.82 899                                  | · · ·      | 0.17 101          | 1.4826     | 0        |
|              |                |                    |      |                |   |            |                |   |            |                   |            |          |
| $23^{\circ}$ | Nat.           | Log.               | Dif. | Nat.           | Log.                                      | Dif.       | Nat.           | Log.                                      | Dif.       | Log.              | Nat.       | 56       |
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|--------------|---------|--------------|------|---------|-------------|------|---------|-------------|------|--------------------|--------|-----|
|              | Nat.    | Log.         | Dif. | Nat.    | Log.        | Dif. | Nat.    | Log.        | Dif. | Log.               | Nat.   |     |
| 0'           | .55 919 | 9.74 756     | .32  | .82 904 | 9.91 857    | .13  | .67 451 | 9.82 899    | .45  | 0.17 101           | 1.4826 | 60  |
| 1            | 943     | 775          |      | 887     | 849         | .15  | 493     | 926         |      | 074                | 816    | 59  |
| 2            | 968     | 794          | .30  | 871     | 840         | .13  | 536     | 953         |      | 047                | 807    | 58  |
| 3            | 992     | 812          | .32  | 855     | 832         | .15  | 578     | 980         | .47  | 020                | 798    | 57  |
| 4            | .56 016 | 831          |      | 839     | 823         | .13  | 620     | 9.83 008    | .45  | 0.16992            | 788    | 56  |
| - 1          |         |              |      |         |             |      |         |             | •    |                    |        |     |
| 5            | 040     | 850          | .30  | 822     | 815         | .15  | 663     | 035         |      | 965                | 779    | 55  |
| 6            | 064     | 868          | .32  | 806     | 806         | .13  | 705     | 062         |      | 938                | 770    | 54  |
| 7            | 088     | 887          |      | 790     | 798         | .15  | 748     | 089         | .47  | 911                | 761    | 53  |
| 8            | 112     | 906          | .30  | 773     | 789         | .13  | 790     | 117         | .45  | 883°               | 751    | 5 2 |
| 9            | 136     | 924          | .32  | 757     | 781         | .15  | 832     | 144         |      | 856                | 742    | 51  |
| i            |         |              | 00   |         |             |      | 07.075  |             |      |                    |        |     |
| 10           | .56 160 | 9.74 943     | .30  | .82 741 | 9.91 772    | .15  | .67 875 | 9.83 171    | .45  | 0.16 829           | 1.4733 | 50  |
| 11           | 184     | 961          | .32  | 724     | 763         | .13  | 917     | 198         |      | 802                | 724    | 49  |
| 12           | 208     | 980          |      | 708     | 755         | .15  | 960     | 225         |      | 775                | 715    | 48  |
| 13           | 232     | 999          | .30  | 692     | 746         | .13  | .68 002 | 252         | .47  | 748                | 705    | 4   |
| 14           | 256     | $9.75 \ 017$ | .32  | 675     | 738         | .15  | 045     | 280         | .45  | 720                | 696    | 46  |
| 15           | 280     | 036          | .30  | 659     | 729         |      | oss     | 307         |      | 693                | 687    | 43  |
| 1            |         |              |      | 1       | 720         | 10   | 1       |             |      |                    |        | ł   |
| 16           | 805     | 054          | .32  | 643     |             | .13  | 130     | 334         |      | 666                | 678    | 44  |
| 17           | 329     | 073          | .30  | 626     | 712         | .15  | 173     | 361         |      | 639                | 669    | 4:  |
| 18           | 853     | 091          | .32  | 610     | 703         | .13  | 215     | 388         |      | 612                | 659    | 4:  |
| 19           | 377     | 110          | .30  | 598     | 695         | .15  | 258     | 415         |      | 585                | 650    | 4   |
| 20           | .56 401 | $9.75\ 128$  | .32  | .82 577 | 9,91 686    | .15  | .68 301 | $9.83\ 442$ | .47  | $0.16\ 558$        | 1.4641 | 4   |
| 21           | 425     | 147          | .30  | 561     | 677         | .13  | 343     | 470         | .45  | 530                | - 632  | 39  |
|              |         |              |      | 544     | 669         |      | 386     | 497         | .40  | 503                | 623    | 38  |
| 22           | 449     | 165          | .32  | 1       |             | .15  |         |             |      |                    |        |     |
| 23           | 473     | 184          | .30  | 528     | 660         |      | 429     | 524         |      | 476                | 614    | 3'  |
| 24           | 497     | 202          | .32  | 511     | 651         | .13  | 471     | 551         |      | 449                | 605    | 30  |
| 25           | 521     | 221          | .30  | 495     | 643         | .15  | 514     | 578         |      | 422                | 596    | 3   |
| 26           | 545     | 239          | .32  | 478     | 634         | •    | 557     | 605         |      | 395                | 586    | 34  |
| 27           | 569     | 258          | .30  | 462     | 625         | .13  | 600     | 632         |      | 368                | 577    | 33  |
|              |         |              | .00  | 1       |             |      |         |             |      |                    |        | 3:  |
| 28           | 593     | 276          |      | 446     | 617         | .15  | 642     | 659         |      | 341                | 56S    |     |
| 29           | 617     | 294          | .32  | 429     | 608         |      | 685     | 686         |      | 314                | 559    | 3   |
| 30           | .56 641 | 9.75 313     | .30  | .82 413 | $9.91\ 599$ | .13  | .68 728 | 9.83713     | .45  | $0.16\ 287$        | 1.4550 | 3   |
| 31           | 665     | 331          | .32  | 396     | 591         | .15  | 771     | 740         | .47  | 260                | 541    | 2   |
| 32           | 689     | 350          | .30  | 380     | 582         | ***  | 814     | 768         | .45  | 232                | 532    | 2   |
|              |         | 368          | .00  | 363     | 573         | .13  | 857     | 795         |      | 205                | 523    | 2   |
| 33           | 713     |              |      | 1       |             |      |         | 822         | •    | 178                |        |     |
| 34           | 786     | 386          | .32  | 347     | 565         | .15  | 900     | 022         |      |                    | 514    | 2   |
| 35           | 760     | 405          | .80  | 330     | 556         |      | 942     | 849         |      | 151                | 505    | 2   |
| 36           | 784     | 423          |      | 314     | 547         |      | 985     | 876         |      | 124                | 496    | 2   |
| 37           | 808     | 441          |      | 297     | 538         | .13  | .69 028 | 903         |      | 097                | 487    | 2   |
| 38           | 832     | 459          | .32  | 281     | 530         | .15  | 071     | 930         |      | 070                | 478    | 2   |
| 39           | 855     | 478          | .30  | 264     | 521         | •••  | 114     | 957         |      | 043                | 469    | 2   |
|              | 003     |              | .50  | 1       |             |      |         |             |      |                    |        | 1   |
| 40           | .56 880 | $9.75\ 496$  | .30  | .82 248 | $9.91\ 512$ | .13  | .69 157 | 9.83 984    | .45  | 0.16 016           | 1.4460 | 2   |
| 41           | 904     | 514          | .32  | 231     | 504         | .15  | 200     | $9.84\ 011$ |      | 0.15989            | 451    | 1   |
| 42           | 928     | 533          | .30  | 214     | 495         |      | 243     | 038         |      | 962                | 442    | 1   |
| 43           | 952     | 551          |      | 198     | 486         |      | 286     | 065         |      | 935                | 433    | 1   |
| 44           | 976     | 569          |      | 181     | 477         | .13  | 329     | 092         |      | 908                | 424    | 1   |
|              |         |              |      |         |             |      |         |             |      |                    |        | 1   |
| 45           | .57 000 | 587          | _    | 165     | 469         | .15  | 372     | 119         |      | 881                | 415    | 1   |
| 46           | 024     | 605          | .32  | 148     | 460         |      | 416     | 146         |      | 854                | 406    | 14  |
| 47           | 047     | 624          | .80  | 132     | 451         |      | 459     | 173         |      | 827                | 397    | 13  |
| 48           | 071     | 642          |      | 115     | 442         |      | 502     | 200         |      | 800                | 388    | 1:  |
| 49           | 095     | 660          |      | 098     | 433         | .13  | 545     | 227         |      | 773                | 379    | 1   |
|              |         | 9.75 678     | 94   | .52 082 | 9.91 425    | .15  | .69 588 | 9.84 254    | .43  | 0.15 746           | 1.4370 | 1   |
| 50           | .57 119 |              | .80  |         |             | .10  |         |             |      |                    |        | 1   |
| 51           | 143     | 696          |      | 065     | 416         |      | 631     | 280         | .45  | 720                | 861    |     |
| 52           | 167     | 714          | .32  | 048     | 407         |      | 675     | 307         |      | 693                | 352    | 1 8 |
| 53           | 191     | 733          | .30  | 032     | 398         |      | 718     | 334         |      | 666                | 344    |     |
| 54           | 215     | 751          |      | 015     | 389         | .18  | 761     | 361         |      | 639                | 335    |     |
| 55           | 238     | 769          |      | .51 999 | 381         | .15  | 804     | 388         |      | 612                | 326    |     |
| 56           | 262     | 787          |      | 952     | 372         |      | 847     | 415         |      | 585                | 317    | 1 4 |
|              |         |              |      |         |             |      |         | 442         |      | 558                | 308    |     |
| 57           | 256     | 805          |      | 965     | 363         |      | 891     |             |      |                    |        |     |
| 58           | 310     | 823          |      | 949     | 354         |      | 934     | 469         |      | 531                | 299    | :   |
| 59           | 334     | 841          |      | 932     | 345         |      | 977     | 496         |      | $\boldsymbol{504}$ | 290    | ]   |
| 60           | .57 858 | 9.75 859     |      | .81 915 | 9.91 336    |      | .70 021 | $9.84\ 523$ |      | 0.15 477           | 1.4281 | (   |
|              | Nat.    | Log.         | Dif. | Nat.    | Log.        | Dif. | Nat.    | Log.        | Dif. | Log.               | Nat.   | 55  |
| $24^{\circ}$ |         |              |      |         |             |      |         |             |      |                    |        |     |

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|              | Nat.    | Log.       | Dif. | Nat.    | Log.        | Dif. | Nat.    | Log.            | Dif. | Log.        | Nat.   | 144           |
| 0'           | .57 358 | 9.75 859   | .30  | .81 915 | 9.91 336    | .13  | .70 021 | 9.84 523        | .45  | 0.15 477    | 1.4281 | 60'           |
| 1            | 381     | 877        |      | 899     | 328         | .15  | 064     | 550             | .43  | 450         | 273    | 59            |
| 2            | 405     | 895        |      | 882     | 319         |      | 107     | 576             | .45  | 424         | 264    | 58            |
| 3            | 429     | 913        |      | 865     | 310         |      | 151     | 603             |      | 397         | 255    | 57            |
| 4            | 453     | 931        |      | 848     | 301         |      | 194     | 630             |      | 370         | 246    | 56            |
| 5            | 477     | 949        |      | 832     |             |      | 1       |                 |      |             |        | l             |
| 6            | 1       | 967        |      |         | 292         |      | 238     | 657             |      | 343         | 237    | 55            |
| 7            | 501     |            |      | 815     | 283         |      | 281     | 684             |      | 316         | 229    | 54            |
|              | 524     | 985        |      | 798     | 274         | .13  | 325     | 711             |      | 289         | 220    | 53            |
| 8            | 548     | - 9.76 003 |      | 782     | 266         | .15  | 368     | 738             | .43  | 262         | 211    | 52            |
| 9            | 572     | 021        |      | 765     | 257         |      | 412     | 764             | .45  | 236         | 202    | 51            |
| 10           | .57 596 | 9.76 039   | .30  | .81 748 | $9.91\ 248$ | .15  | .70 455 | 9.84791         | .45  | 0.15 209    | 1.4193 | 50            |
| 11           | 619     | 057        |      | 731     | 239         |      | 499     | 818             |      | 182         | 185    | 49            |
| 12           | 643     | 075        |      | 714     | 230         |      | 542     | 845             |      | 155         | 176    | 48            |
| 13           | 667     | 093        |      | 698     | 221         |      | 586     | 872             |      | 128         | 167    | 47            |
| 14           | 691     | 111        |      | 681     | 212         |      | 629     | 899             | 40   |             |        | I .           |
|              |         |            |      |         |             |      | 029     | 099             | .43  | 101         | 158    | 46            |
| 15           | 715     | 129        | .28  | 664     | 203         |      | 673     | 925             | .45  | 075         | 150    | 45            |
| 16           | 738     | 146        | .30  | 647     | 194         |      | 717     | <b>952</b>      |      | 048         | 141    | 44            |
| 17           | 762     | 164        |      | 631     | 185         |      | 760     | 979             |      | 021         | 132    | 43            |
| 18           | 786     | 182        |      | 614     | 176         |      | 804     | 9.85006         |      | 0.14 994    | 124    | 42            |
| 19           | 810     | 200        |      | 597     | 167         |      | 848     | 033             | .43  | 967         | 115    | 41            |
| 20           |         |            | 20   |         |             |      |         |                 |      |             |        |               |
|              | .57 833 | 9.76 218   | .30  | .81 580 | 9.91 158    | .15  | .70 891 | 9.85 059        | .45  | 0.14 941    | 1.4106 | 40            |
| 21           | 857     | 236        | .28  | 563     | 149         | .13  | 935     | 086             |      | 914         | 097    | 39            |
| 22           | 881     | 253        | .30  | 546     | 141         | .15  | 979     | 113             |      | 887         | 089    | 38            |
| 23           | 904     | 271        |      | 530     | 132         |      | .71 023 | 140             | .43  | 860         | 080    | 37            |
| 24           | 928     | 289        |      | 513     | 123         |      | 066     | 166             | .45  | 834         | 071    | 36            |
| 25           | 952     | 307        | .28  | 496     | 114         |      | 110     | 193             |      | 807         | 063    | 35            |
| 26           | 976     | 324        | .30  | 479     | 105         |      | 1       |                 |      |             |        |               |
| 27           | Į.      |            | .60  |         |             |      | 154     | 220             |      | 780         | 054    | 34            |
|              | 999     | 342        |      | 462     | 096         |      | 198     | 247             | .43  | 753         | 045    | 33            |
| 28           | .58 023 | 360        |      | 445     | 087         |      | 242     | 273             | .45  | 727         | 037    | 32            |
| 29           | 047     | . 378      | .28  | 428     | 078         |      | 285     | 300             |      | 700         | 028    | 31            |
| 30           | .58 070 | 9.76395    | .30  | .81 412 | 9.91 069    | .15  | .71 329 | 9.85 327        | .45  | $0.14\ 673$ | 1.4019 | 30            |
| 31           | 094     | 413        | •    | 395     | 060         | •10  | 373     | 354             | .43  | 646         | 011    | 29            |
| 32           | 118     | 431        | .28  | 378     | 051         |      | f       | 380             |      | 620         |        | 28            |
| 33           | 141     | 448        | .30  |         |             |      | 417     |                 | .45  |             | 002    |               |
|              |         |            | .80  | 361     | 042         |      | 461     | 407             |      | 593         | 1.3994 | 27            |
| 34           | 165     | 466        |      | 344     | 033         | .17  | 505     | 434             | .43  | 566         | 985    | 26            |
| 35           | 189     | 484        | .28  | 327     | 023         | .15  | 549     | 460             | .45  | 540         | 976    | 25            |
| 36           | 212     | 501        | .30  | 310     | 014         |      | 593     | 487             |      | 513         | 968    | 24            |
| 37           | 236     | 519        |      | 293     | 005         |      | 637     | 514             | .43  | 486         | 959    | 23            |
| 38           | 260     | 537        | .28  | 276     | 9.90 996    |      | 681     | 540             | .45  | 460         | 951    | 22            |
| 39           | 283     | 554        | .30  | 259     | 987         |      | 725     | 567             | .40  | 433         | 942    | 21            |
|              |         |            |      |         |             |      |         |                 |      |             |        |               |
| 40           | .58 307 | 9.76572    | .30  | .81 242 | 9.90978     | .15  | .71 769 | $9.85\ 594$     | .43  | $0.14\ 406$ | 1.3934 | 20            |
| 41           | 330     | 590        | .28  | 225     | 969         |      | 813     | 620             | .45  | 380         | 925    | 19            |
| 42           | 354     | 607        | .30  | 208     | 960         |      | 857     | 647             |      | 353         | 916    | 18            |
| 43           | 378     | 625        | .28  | 191     | 951         |      | 901     | 674             | .43  | 326         | 908    | 17            |
| 44           | 401     | 642        | .30  | 174     | 942         |      | 946     | 700             | .45  | 300         | 899    | 16            |
|              |         |            |      |         |             |      |         |                 |      |             |        | ł             |
| 45           | 425     | 660        | .28  | 157     | 933         |      | 990     | 727             |      | 273         | 891    | 15            |
| 46           | 449     | 677        | .30  | 140     | 924         |      | .72 034 | 754             | .43  | 246         | 882    | 14            |
| 47           | 472     | 695        | .28  | 123     | 915         |      | 078     | 780             | .45  | 220         | 874    | 13            |
| 48           | 496     | 712        | .30  | 106     | 906         | .17  | 122     | 807             |      | 193         | 865    | 12            |
| 49           | 519     | 730        | .28  | 089     | 896         | .15  | 167     | 834             | .43  | 166         | 857    | 11            |
| 50           | .58 543 | 9.76 747   | .30  | 91 070  | 9.90 887    | .15  | .72 211 | 9.85 860        | .45  | 0.14 140    | 1.3848 | 10            |
|              |         | 765        |      | .81 072 | 9.90 881    | .10  |         | 9.85 860<br>887 |      |             |        | 9             |
| 51           | 567     |            | .28  | 055     |             |      | 255     |                 | .43  | 113         | 840    |               |
| 52           | 590     | 782        | .30  | 038     | 869         |      | 299     | 913             | .45  | 087         | 831    | 8             |
| 53           | 614     | 800        | .28  | 021     | 860         |      | 344     | 940             |      | 060         | 823    | 7             |
| 54           | 637     | 817        | .30  | 004     | 851         |      | 388     | 967             | .43  | 033         | 814    | 6             |
| 55           | 661     | 835        | .28  | .80 987 | 842         | .17  | 432     | 993             | .45  | 007         | - 806  | 5             |
| 56           | 684     | 852        | .30  | 970     | 832         | .15  | 477     | 9.86020         | .43  | 0.13 980    | 798    | 4             |
| 57           | 708     | 870        | .28  | 953     | 823         | .10  | 521     | 046             | .45  | 954         | 789    | 3             |
|              | t .     |            | .20  |         |             |      | I)      |                 | .40  | 927         |        | $\frac{3}{2}$ |
| 58           | 731     | 887        | 20   | 936     | 814         |      | 565     | 073             | 40   |             | 781    | ı             |
| 59           | 755     | 904        | .80  | 919     | 805         |      | 610     | 100             | .43  | 900         | 772    |               |
| 60           | .58 779 | 9.76 922   |      | .80 902 | 9.90 796    |      | .72 654 | 9.86 126        |      | 0.13 874    | 1.3764 | 0             |
| 25°          | Nat.    | Log.       | Dif. | Nat.    | Log.        | Dif. | Nat.    | Log.            | Dif. | Log.        | Nat.   | 54            |
| .20          |         | Cosines.   |      |         | SINES.      |      | Сота    | NGENTS.         |      | TANG        | ENTS   | "#            |
|              |         |            |      |         |             |      |         |                 |      |             |        |               |

| $36^{\circ}$    |         | SINES.     |      |            | Cosines.   |            | TANG       | ENTS.             |            | COTANO            | ENTS.      | 143                                  |
|-----------------|---------|------------|------|------------|------------|------------|------------|-------------------|------------|-------------------|------------|--------------------------------------|
| 00              | Nat.    | Log.       | Dif. | Nat.       | Log.       | Dif.       | Nat.       | Log.              | Dif.       | Log.              | Nat.       | 11                                   |
| 0'              | .58 779 | 9.76 922   | .28  | .80 902    | 9.90 796   | .15        | .72 654    | 9.86 126          | .45        | 0.13 874          | 1.3764     | 60                                   |
| 1               | 802     | 939        | .30  | 885        | 787        | .17        | 699        | 153               | .43        | 847               | 755        | 59                                   |
| 2               | 826     | 957        | .28  | 867        | 777        | .15        | 743        | 179               | .45        | 821               | 747        | 58                                   |
| 3               | 849     | 974        |      | 850        | 768        |            | 788        | 206               | .43        | 794               | 739        | 57                                   |
| 4               | 873     | 991        | .30  | 833        | 759        |            | 832        | 232               | .45        | 768               | 730        | 50                                   |
| 5               | 896     | 9.77 009   | .25  | 816        | 750        |            | 877        | 259               | .43        | 741               | 722        | 5                                    |
| 6               | 920     | 026        | .20  | 799        | 741        | .17        | 921        | 285               | .45        | 715               | 713        | 5                                    |
| 7               | 943     | 043        | .30  | 782        | 731        | .15        | 966        | 312               | .43        | 688               | 705        | 5                                    |
| 8               | 967     | 061        | .25  | 765        | 722        | ***        | .73 010    | 338               | .45        | 662               | 697        | 5                                    |
| 9               | 990     | 078        |      | 748        | 713        |            | 055        | 365               | 120        | 635               | 688        | 5                                    |
| 10              | .59 014 | 9.77 095   | .28  | .80 730    | 9.90 704   | .17        | .73 100    | 9.86 392          | .43        | 0.13 608          | 1.3680     | 5                                    |
| 11              | 037     | 112        | .30  | 713        | 694        | .15        | 144        | 418               | .45        | 582               | 672        | 4                                    |
| 12              | 061     | 130        | .28  | 696        | 685        |            | 189        | 445               | .43        | 555               | 663        | 4                                    |
| 13              | 084     | 147        |      | 679        | 676        |            | 234        | 471               | .45        | 529               | 655        | 4                                    |
| 14              | 108     | 164        |      | 662        | 667        | .17        | 278        | 498               | .43        | 502               | 647        | 4                                    |
| 15              | 131     | 181        | .30  | 644        | 657        | .15        | 323        | 524               | .45        | 476               | 638        | 4                                    |
| 16              | 154     | 199        | .28  | 627        | 648        | •          | 368        | 551               | .43        | 449               | 630        | 4                                    |
| 17              | 178     | 216        | .=-  | 610        | 639        |            | 413        | 577               |            | 423               | 622        | 4                                    |
| 18              | 201     | 233        |      | 593        | 630        | .17        | 457        | 603               | .45        | 397               | 613        | 4                                    |
| 19              | 225     | 250        | .30  | 576        | 620        | .15        | 502        | 630               | .43        | 370               | 605        | 4                                    |
| 20              | .59 248 | 9.77 268   | .28  | .80 558    | 9.90 611   | .15        | .73 547    | 9.86 656          | .45        | 0.13 344          | 1.8597     | 4                                    |
| 21              | 272     | 285        | .=-  | 541        | 602        | .17        | 592        | 683               | .43        | 317               | 588        | 3                                    |
| 22              | 295     | 302        |      | 524        | 592        | .15        | 637        | 709               | .45        | 291               | 580        | 3                                    |
| 23              | 318     | 319        |      | 507        | 583        | ,10        | 681        | 736               | .43        | 264               | 572        | 3                                    |
| 24              | 342     | 336        |      | 489        | 574        |            | 726        | 762               | .45        | 238               | 564        | 3                                    |
| 25              | 365     | 353        |      | 472        | 565        | .17        | 771        | 789               | .43        | 211               | 555        | 3                                    |
| 26              | 389     | 370        |      | 455        | 555        | .15        | S16        | 815               | .45        | 185               | 547        | 3                                    |
| $\frac{20}{27}$ | 412     | 387        | .30  | 438        | 546        | .10        | 861        | 842               | .43        | 158               | 539        | 3                                    |
| 28              | 436     | 405        | .28  | 420        | 537        | .17        | 906        | 868               | .40        | 132               | 531        | 3                                    |
| 29              | 459     | 422        | .28  | 403        | 527        | .15        | 951        | 894               | .45        | 106               | 522        | 3                                    |
|                 |         |            |      | 1          |            |            | 1          |                   |            |                   |            | 1                                    |
| 30              | .59 482 | 9.77 439   | .28  | .80 386    | 9.90 518   | .15        | .73 996    | 9.86 921          | .43        | 0.13 079          | 1.3514     | 3 2                                  |
| 31              | 506     | 456        |      | 368        | 509        | .17        | .74 041    | 947               | .45        | 053               | 506        |                                      |
| 32              | 529     | 473        |      | 351        | 499        | .15        | 086        | 974               | .43        | 026               | 498        | 2                                    |
| 33              | 552     | 490<br>507 |      | 334<br>316 | 490<br>480 | .17<br>.15 | 131<br>176 | $9.87\ 000$ $027$ | .45<br>.43 | $000 \\ 0.12973$  | 490<br>481 | $\begin{vmatrix} 2\\2 \end{vmatrix}$ |
| 34              | 576     |            |      | 1          |            | .10        |            |                   | .40        |                   |            | )                                    |
| 35              | 599     | 524        |      | 299        | 471        |            | 221        | 053               |            | 947               | 478        | 2                                    |
| 36              | 622     | 541        |      | 282        | 462        | .17        | 267        | 079               | .45        | 921               | 465        | 2                                    |
| 37              | 646     | 558        |      | 264        | 452        | .15        | 312        | 106               | .43        | 894               | 457        | 2                                    |
| 38              | 669     | 575        |      | 247        | 443        |            | 357        | 132               |            | 868               | 449        | 2                                    |
| 39              | 693     | 592        |      | 230        | 434        | .17        | 402        | 158               | .45        | 842               | 440        | 2                                    |
| 40              | .59 716 | 9.77609    | .28  | .80 212    | 9.90424    | .15        | .74 447    | $9.87\ 185$       | .43        | 0.12 815          | 1.3432     | 2                                    |
| 41              | 739     | 626        |      | 195        | 415        | .17        | 492        | 211               | .45        | 789               | 424        | 1                                    |
| 42              | 763     | 643        |      | 178        | 405        | .15        | 538        | 238               | .43        | 762               | 416        | 1                                    |
| 43              | 786     | 660        |      | 160        | 396        | .17        | 583        | 264               |            | 736               | 408        | 1                                    |
| 44              | 809     | 677        |      | 143        | 386        | .15        | 628        | 290               | .45        | 710               | 400        | 1                                    |
| 45              | 832     | 694        |      | 125        | 377        |            | 674        | 317               | .43        | 683               | 392        | 1                                    |
| 46              | 856     | 711        |      | 108        | 368        | .17        | 719        | 343               |            | 657               | 384        | 1                                    |
| 47              | 879     | 728        | .27  | 091        | 358        | .15        | 764        | 369               | .45        | 631               | 875        | 1                                    |
| 48              | 902     | 744        | .28  | 073        | 349        | .17        | 810        | 396               | .43        | 604               | 367        | 1                                    |
| 49              | 926     | 761        |      | 056        | 339        | .15        | 855        | 422               |            | 578               | 359        | 1                                    |
| 50              | .59 949 | 9.77 778   | .28  | .80 038    | 9.90 330   | .17        | .74 900    | 9.87 448          | .45        | $0.12\ 552$       | 1.8351     | 1                                    |
| 51              | 972     | 795        | .20  | 021        | 320        | .15        | 946        | 475               | .48        | 525               | 343        | 1                                    |
| 52              | 995     | 812        |      | 003        | 311        | .17        | 991        | 501               | . 20       | 499               | 335        |                                      |
| 53              | .60 019 | 829        |      | .79 986    | 301        | .15        | .75 037    | 527               | .45        | 473               | 327        |                                      |
| 54              | 042     | 846        | .27  | 968        | 292        | .17        | 082        | 554               | .43        | 446               | 819        |                                      |
|                 |         |            |      |            |            |            | Y.         |                   |            | 420               | 811        |                                      |
| 55              | 065     | 862        | .28  | 951        | 282        | .15        | 128        | 580               | 18         |                   | 311<br>303 |                                      |
| 56              | 059     | 879        |      | 934        | 273        | .17        | 173        | 606               | .45        | 394               | 303<br>295 |                                      |
| 57              | 112     | 896        |      | 916        | 263        | .15        | 219        | 633               | .43        | $\frac{367}{341}$ | 295<br>287 |                                      |
| 58              | 135     | 913        | 0=   | 899        | 254        | .17        | 264        | 659<br>685        |            | 315               | 287<br>278 |                                      |
| 59              | 158     | 930        | .27  | 881        | 244        | .15        | 310        | 685               |            |                   |            |                                      |
| 60              | .60 182 | 9.77 946   |      | .79 564    | 9.90 235   |            | .75 855    | 9.87 711          |            | 0.12 289          | 1.3270     |                                      |
| $26^{\circ}$    | Nat.    | Log.       | Dif. | Nat.       | Log.       | Dif.       | Nat.       | Log.              | · Dif.     | Log.              | Nat.       | 5                                    |
|                 |         | Cosines.   |      | 1          | SINES.     |            | 1 41       | ANGENTS.          |            | TANG              | *******    | 1                                    |

| $37^{\circ}$ |         | SINES.            |      |                | Cosines.          |      | TAN            | GENTS.            |      | COTAN       | GENTS. | 146          |
|--------------|---------|-------------------|------|----------------|-------------------|------|----------------|-------------------|------|-------------|--------|--------------|
|              | Nat.    | Log.              | Dif. | Nat.           | Log.              | Dif. | Nat.           | Log.              | Dif. | Log.        | Nat.   | 142          |
| 0'           | .60 182 | 9.77 946          | .28  | .79 864        | 0.00.025          |      | 1              | 0.05.544          |      |             |        | 1            |
| 1            | 205     | 963               |      | 846            | $9.90\ 235$ $225$ | .17  | .75 855        | 9.87 711          | .45  | 0.12 289    | 1.3270 | 60           |
| 2            | 228     | 980               |      | 829            | 216               | .15  | 401            | 738               | .43  | 262         | 262    | 59           |
| 3            | 251     | 997               |      | 811            |                   | .17  | 441            | 764               |      | 236         | 254    | 58           |
| 4            | 274     | 9.78 013          |      | 793            | $\frac{206}{197}$ | .15  | 492            | 790               | .45  | 210         | 246    | 57           |
|              |         |                   |      | 1 .            |                   | .17  | 538            | 817               | .43  | 183         | 238    | 56           |
| 5            | 298     | 030               |      | 776            | 187               | .15  | 584            | 843               |      | 157         | 230    | 55           |
| 6            | 321     | 047               |      | 758            | 178               | .17  | 629            | 869               |      | 131         | 222    | 54           |
| 7            | 344     | 063               |      | 741            | 168               | .15  | 675            | 895               | .45  | 105         | 214    | 53           |
| 8            | 367     | 080               |      | 723            | 159               | .17  | 721            | 922               | .43  | 078         | 206    | 52           |
| 9            | 390     | 097               | .27  | 706            | 149               |      | 767            | 948               |      | 052         | 198    | 51           |
| 10           | .60 414 | 9.78 113          | .28  | .79 688        | 9.90 139          | .15  | .75 812        | 9.87 974          | .43  | 0.12 026    | 1.3190 | 50           |
| 11           | 437     | 130               |      | 671            | 130               | .17  | 858            | 9.88 000          | .45  | 0.12 020    | 1.5150 | 49           |
| 12           | 460     | 147               | .27  | 653            | 120               | .15  | 904            | 027               | .43  | 0.11 973    | 175    | 48           |
| 13           | 483     | 163               | .28  | 635            | 111               | .17  | 950            | 053               | · ee | 947         | 167    | 47           |
| 14           | 506     | 180               |      | 618            | 101               |      | 996            | 079               |      | 921         | 159    | 1            |
| 15           | 529     | 197               | 07   | 1              |                   |      | 1              |                   |      |             |        | 46           |
| 16           | 558     | 213               | .27  | 600            | 091               | .15  | .76 042        | 105               |      | 895         | 151    | 45           |
| 17           | 576     | 213               | .28  | 583            | 082               | .17  | 088            | 131               | .45  | 869         | 143    | 44           |
| 18           | 599     | $\frac{230}{246}$ | .27  | 565            | 072               | .15  | 134            | 158               | .43  | 842         | 135    | 43           |
| 19           | 622     |                   | .28  | 547            | 063               | .17  | 180            | 184               |      | 816         | 127    | 42           |
|              |         | 263               |      | 580            | 053               |      | 226            | 210               |      | 790         | 119    | 41           |
| 20           | .60 645 | $9.78\ 280$       | .27  | .79 512        | 9.90043           | .15  | .76 272        | $9.88\ 236$       | .43  | 0.11764     | 1.3111 | 40           |
| 21           | 668     | 296               | .28  | 494            | 034               | .17  | 318            | 262               | .45  | 738         | 103    | 39           |
| 22           | 691     | 313               | .27  | 477            | 024               |      | 364            | 289               | .43  | 711         | 095    | 38           |
| 23           | 714     | 329               | .28  | 459            | 014               | .15  | 410            | 315               |      | 685         | 087    | 37           |
| 24           | 738     | 346               | .27  | 441            | 005               | .17  | 456            | 341               |      | 659         | 079    | 36           |
| 25           | 761     | 362               | .28  | 424            | 9.89 995          |      | 502            | 367               |      |             |        |              |
| 26           | 784     | 379               | .27  | 406            | 985               | .15  | 548            | 393               | 45   | 633         | 072    | 35           |
| 27           | 807     | 395               | .28  | 388            | 976               | .17  | 594            | $\frac{393}{420}$ | .45  | 607         | 064    | 34           |
| 28           | 830     | 412               | .27  | 371            | 966               | .14  |                | $\frac{420}{446}$ | .43  | 580         | 056    | 33           |
| 29           | 853     | 428               | .28  | 358            | 956               | 15   | 640            |                   |      | 554         | 048    | 32           |
|              |         |                   |      | 1              |                   | .15  | 686            | 472               |      | 528         | 040    | 31           |
| 30           | .60 876 | 9.78 445          | .27  | .79 335        | 9.89947           | .17  | .76 733        | 9.88498           | .43  | $0.11\ 502$ | 1.3032 | 30           |
| 31           | 899     | 461               | .28  | 318            | 937               |      | 779            | $\bf 524$         |      | 476         | 024    | 29           |
| 32           | 922     | 478               | .27  | 300            | 927               | .15  | 825            | 550               | .45  | 450         | 017    | 28           |
| 33           | 945     | 494               |      | 282            | 918               | .17  | 871            | 577               | .43  | 423         | 009    | 27           |
| 34           | 968     | 510               | .28  | 264            | 908               |      | 918-           | 603               |      | 397         | 001    | 26           |
| 35           | 991     | 527               | .27  | 247            | 898               |      | 964            | 629               |      | 371         | 1.2993 | 25           |
| 36           | .61 015 | 543               | .28  | 229            | 888               | .15  | .77 010        | 655               |      | 345         | 985    | 24           |
| 37           | 038     | 560               | .27  | 211            | 879               | .17  | 057            | 681               |      | 319         | 977    | 23           |
| 38           | 061     | 576               |      | 193            | 869               |      | 103            | 707               |      | 293         | 970    | 22           |
| 39           | 084     | 592               | .28  | 176            | 859               |      | 149            | 733               |      | 267         | 962    | 21           |
| 40           | .61 107 | 9.78 609          | .27  | 70 150         | 9.89 849          | 15   |                |                   |      |             |        |              |
| 41           | 130     | 625               | .28  | .79 158<br>140 | 9.89 849<br>840   | .15  | .77 196<br>242 | 9.88 759          | .45  | 0.11 241    | 1.2954 | 20           |
| 42           | 153     | 642               | .28  | 140            |                   | .17  |                | 786               | .43  | 214         | 946    | 19           |
| 43           | 176     | 658               | .21  |                | 830               |      | 289            | 812               |      | 188         | 938    | 18           |
| 44           | 199     | 674               | 90   | 105            | 820               | 4 10 | 335            | 838               |      | 162         | 931    | 17           |
|              |         |                   | .28  | 087            | 810               | .15  | 382            | 864               |      | 136         | 923    | 16           |
| 45           | 222     | 691               | .27  | 069            | 801               | .17  | 428            | 890               |      | 110         | 915    | 15           |
| 46           | 245     | 707               |      | 051            | 791               |      | . 475          | 916               |      | 084         | 907    | 14           |
| 47           | 268     | 723               |      | 033            | 781               |      | 521            | 942               |      | 058         | 900    | 13           |
| 48           | 291     | 739               | .28  | 016            | 771               |      | 568            | 968               |      | 032         | 892    | . 12         |
| 49           | 314     | 756               | .27  | .78 998        | 761               | .15  | 615            | 994               |      | 006         | 884    | 11           |
| 50           | .61 337 | 9.78 772          | .27  | .78 980        | 9.89 752          | .17  | .77 661        | 9.89 020          | .43  | 0.10 980    | 1.2876 | 10           |
| 51           | 360     | 788               | .28  | 962            | 742               |      | 708            | 046               | .45  | 954         | 869    | 9            |
| 52           | 383     | 805               | .27  | 944            | 732               |      | 754            | 073               | .43  | 927         | 861    | 8            |
| 53           | 406     | 821               | .26  | 926            | 722               |      | 801            | 013               | *20  | 901         | 853    | 7            |
| 54           | 429     | 837               |      | 908            | 712               |      | 848            | 125               |      | 875         |        | 6            |
| 1            |         |                   |      |                |                   |      |                |                   |      |             | 846    |              |
| 55           | 451     | 853               |      | 891            | 702               | .15  | 895            | 151               |      | 849         | 838    | 5            |
| 56           | 474     | 869               | .28  | 873            | 693               | .17  | 941            | 177               |      | 823         | 830    | 4            |
| 57           | 497     | 886               | .27  | 855            | 683               |      | 988            | 203               |      | 797         | 822    | 3            |
| 58           | 520     | 902               |      | 837            | 673               |      | .78 035        | 229               |      | 771         | 815    | 2            |
| 59           | 543     | 918               | 1    | 819            | 663               |      | 082            | 255               |      | 745         | 807    | 1            |
| 60           | .61 566 | 9.78 934          | ·    | .78 801        | 9.89 653          |      | .78 129        | 9.89 281          |      | 0.10 719    | 1.2799 | 0            |
| $27^{\circ}$ | Nat.    | Log.              | Dif. | Nat.           | Log.              | Dif. | Nat.           | Log.              | Dif. | Log.        | Nat.   | $52^{\circ}$ |
| 4            |         | Cosines.          |      |                | SINES.            |      | COTA           | NGENTS.           |      | TANGE       | NTS.   | JA           |
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| 38°           |         | SINES.    |      |         | Cosines.    |      | TANG    | ENTS.       |      | COTANG      | ENTS.  | 141      |
|---------------|---------|-----------|------|---------|-------------|------|---------|-------------|------|-------------|--------|----------|
| 0             | Nat.    | Log.      | Dif. | Nat.    | Log.        | Dif. | Nat.    | Log.        | Dif. | Log.        | Nat.   | T. TE 1  |
| 0'            | .61 566 | 9.78 934  | .27  | .78 801 | 9.89 653    | .17  | .78 129 | 9.89 281    | .43  | 0.10 719    | 1.2799 | 60       |
| 1             | 589     | 950       | .28  | 783     | 643         | •••  | 175     | 307         | .10  | 693         | 792    | 59       |
|               |         | 967       | .27  | 765     | 633         | .15  | 222     | 333         |      | 667         | 784    | 58       |
| 2             | 612     |           | .24  |         |             | .17  | 269     | 359         |      |             |        | 57       |
| 3             | 635     | 983       |      | 747     | 624         | .16  |         |             |      | 641         | 776    |          |
| 4             | 658     | 999       |      | 729     | 614         |      | 316     | 385         |      | 615         | 769    | 5€       |
| 5             | 681     | 9.79  015 |      | 711     | 604         |      | 363     | 411         |      | 589         | 761    | 55       |
| 6             | 704     | 031       |      | 694     | 594         |      | 410     | 437         |      | 563         | 753    | 54       |
| 7             | 726     | 047       |      | 676     | 584         |      | 457     | 463         |      | 537         | 746    | 53       |
|               |         |           |      | 1       | 574         |      | 504     | 489         |      | 511         | 738    | 5:       |
| 8             | 749     | 063       |      | 658     |             |      |         |             |      |             |        |          |
| 9             | 772     | 079       |      | 640     | 564         |      | 551     | 515         |      | 485         | 731    | 5        |
| 10            | .61 795 | 9.79 095  | .27  | .78 622 | $9.89\ 554$ | .17  | .78 598 | $9.89\ 541$ | .43  | $0.10\ 459$ | 1.2723 | 50       |
| 11            | 818     | 111       | .28  | 604     | 544         |      | 645     | 567         |      | 433         | 715    | 49       |
| 12            | 841     | 128       | .27  | 586     | 534         |      | 692     | 593         |      | 407         | 708    | 48       |
|               |         | 144       |      | 568     | 524         |      | 739     | 619         |      | 381         | 700    | 4'       |
| 13            | 864     |           |      | 1       |             |      |         |             |      |             |        |          |
| 14            | 887     | 160       |      | 550     | 514         |      | 786     | 645         |      | 355         | 693    | 4        |
| 15            | 909     | 176       |      | 532     | 504         | .15  | 834     | 671         |      | 329         | 685    | 4        |
| 16            | 932     | 192       |      | 514     | 495         | .17  | 881     | 697         |      | 303         | 677    | 4.       |
| 17            | 955     | 208       |      | 496     | 485         |      | 928     | 723         |      | 277         | 670    | 4:       |
|               |         |           |      | 1       | 475         |      | 975     | 749         |      | 251         | 662    | 4:       |
| 18            | 978     | 224       |      | 478     |             |      | 1       |             |      |             |        |          |
| 19            | .62 001 | 240       |      | 460     | 465         |      | .79 022 | 775         |      | 225         | 655    | 4        |
| 20            | .62 024 | 9.79 256  | .27  | .78 442 | $9.89\ 455$ | .17  | .79 070 | 9.89801     | .43  | 0.10 199    | 1.2647 | 4        |
| 21            | 046     | 272       |      | 424     | 445         |      | 117     | 827         |      | 173         | 640    | 3        |
|               |         | 288       |      | 405     | 435         |      | 164     | 853         |      | 147         | 632    | 3        |
| 22            | 069     |           | ~~   | 1       |             |      | 1       |             |      | 121         |        |          |
| 23            | 092     | 304       | .25  | 387     | 425         |      | 212     | 879         |      |             | 624    | 3        |
| 24            | 115     | 319       | .27  | 369     | 415         |      | 259     | 905         |      | 095         | 617    | 3        |
| 25            | 138     | 335       |      | 351     | 405         |      | 306     | 931         |      | 069         | 609    | 3        |
| 26            | 160     | 351       |      | 333     | 395         |      | 354     | 957         |      | 043         | 602    | 3        |
|               |         |           |      | 1       |             |      | 401     | 983         |      | 017         | 594    | 3        |
| 27            | 183     | 367       |      | 315     | 385         |      | 1       |             |      |             |        |          |
| 28            | 206     | 383       |      | 297     | 375         | .18  | 449     | 9.90 009    |      | 0.09 991    | 587    | 3        |
| 29            | 229     | 399       |      | 279     | 364         | .17  | 496     | 035         |      | 965         | 579    | 3        |
| 30            | .62 251 | 9.79 415  | .27  | .78 261 | 9.89 354    | .17  | .79 544 | 9.90 061    | .42  | 0.09 939    | 1.2572 | 3        |
| 31            | 274     | 431       |      | 243     | 344         | •-•  | 591     | 086         | .43  | 914         | 564    | 2        |
|               |         |           |      | 225     | 334         |      | 639     | 112         | .10  | 888         | 557    | 2        |
| 32            | 297     | 447       |      | 1       |             |      | 686     | 138         |      | 862         |        | 2        |
| 33            | 320     | 463       | .25  | 206     | 324         |      |         |             |      |             | 549    |          |
| 34            | 342     | 478       | .27  | 188     | 314         |      | 734     | 164         |      | 836         | 542    | 2        |
| 35            | 365     | 494       |      | 170     | 304         |      | 781     | 190         |      | 810         | 534    | 2        |
| 36            | 388     | 510       |      | 152     | 294         |      | 829     | 216         |      | 784         | 527    | 2        |
|               |         | 526       |      | 134     | 284         |      | 877     | 242         |      | 758         | 519    | 2        |
| 37            | 411     |           |      |         |             |      | 924     | 268         |      | 732         | 512    | 2        |
| 38            | 433     | 542       |      | 116     | 274         |      | 1       |             |      |             |        |          |
| 39            | 456     | 558       | .25  | 098     | 264         |      | 972     | <b>294</b>  |      | 706         | 504    | 2        |
| 40            | .62 479 | 9.79 573  | .27  | .78 079 | $9.89\ 254$ | .17  | .80 020 | 9.90 320    | .43  | 0.09 680    | 1.2497 | 2        |
| 41            | 502     | 589       |      | 061     | 244         | .18  | 067     | 346         | .42  | 654         | 489    | 1        |
| 42            | 524     | 605       |      | 043     | 233         | .17  | 115     | 371         | .43  | 629         | 482    | 1        |
|               |         |           | 0"   | 1       | 223         | .14  | 163     | 397         | .40  | 603         | 475    | 1        |
| 43            | 547     | 621       | .25  | 025     |             |      |         |             |      |             |        |          |
| 44            | 570     | 636       | .27  | 007     | 213         |      | 211     | 423         |      | 577         | 467    | 1        |
| 45            | 592     | 652       |      | .77 988 | 203         |      | 258     | 449         |      | 551         | 460    | 1        |
| 46            | 615     | 668       |      | 970     | 193         |      | 306     | 475         |      | 525         | 452    | i        |
|               | 638     | 684       | or.  | 952     | 183         |      | 354     | 501         |      | 499         | 445    | i        |
| 47            |         |           | .25  | 1       |             | 40   | 1       |             |      | 473         | 487    | 1        |
| 48            | 660     | 699       | .27  | 984     | 173         | .18  | 402     | 527         | 40   |             |        |          |
| 49            | 683     | 715       |      | 916     | 162         | .17  | 450     | 553         | .42  | 447         | 430    | 1        |
| 50            | .62 706 | 9.79 731  | .25  | .77 897 | $9.89\ 152$ | .17  | .80 498 | $9.90\ 578$ | .43  | 0.09422     | 1.2423 | 1        |
| 51            | 728     | 746       | .27  | 879     | 142         |      | 546     | 604         |      | 396         | 415    |          |
|               |         |           | .21  | l l     |             |      |         | 630         |      | 370         | 408    |          |
| 52            | 751     | 762       |      | 861     | 132         |      | 594     |             |      |             |        |          |
| 53            | 774     | 778       | .25  | 843     | 122         |      | 642     | 656         |      | 344         | 401    |          |
| 54            | 796     | 793       | .27  | 824     | 112         | .18  | 690     | 682         |      | 318         | 393    |          |
| 55            | 819     | 809       |      | 806     | 101         | .17  | 738     | 708         |      | 292         | 386    |          |
|               | 1       |           | 0.5  | 1       |             | .14  | 1       |             | 40   | 266         | 378    |          |
| 56            | 542     | 825       | .25  | 758     | 091         |      | 786     | 734         | .42  |             |        |          |
| 57            | 864     | 840       | .27  | 769     | 081         |      | 834     | 759         | .43  | 241         | 871    |          |
| 58            | 887     | 856       |      | 751     | 071         | .18  | 882     | 785         |      | 215         | 364    |          |
| 59            | 909     | 872       | .25  | 733     | 060         | .17  | 930     | 811         |      | 189         | 356    |          |
| 60            | .62 932 | 9.79 887  |      | .77 715 | 9.89 050    |      | .80 978 | 9.90 837    |      | 0.09 163    | 1.2349 |          |
| 000           | Nat.    | Log.      | Dif. | Nat.    | Log.        | Dif. | Nat.    | Log.        | Dif. | Log.        | Nat.   | <u> </u> |
| $.28^{\circ}$ |         |           |      |         |             |      |         |             |      |             | ENTS.  | 5.       |
|               |         | Cosines.  |      |         | SINES.      |      |         | ANGENTS.    |      |             |        |          |

| $39^{\circ}$ | -       | SINES.    |      |         | Cosines.    |      | TAN         | GENTS.      |      | , Cotan    | GENTS.   | 140 |
|--------------|---------|-----------|------|---------|-------------|------|-------------|-------------|------|------------|--|-----|
|              | Nat.    | Log.      | Dif. | Nat.    | Log.        | Dif. | Nat.        | Log.        | Dif. | Log.       | Nat.   | 140 |
| 0'           | .62 932 | 9.79 887  | .27  | .77 715 | 9.89 050    | .17  | .80 978     | 9.90 837    | .43  | 0.00.100   | 4 0046   | 00  |
| 1            | 955     | 903       | .25  | 696     | 040         |      | .81 027     | 863         | .43  | 0.09 163   | 1.2349   | 60  |
| 2            | 977     | 918       | .27  | 678     | 030         |      | 1           |             |      | 137        | 342  | 59  |
| 3            | .63 000 | 934       | .21  | 1       |             |      | 075         | 889         | .42  | 111        | 334  | 58  |
| 4            | - 022   | 954       | O.F  | 660     | 020         |      | 123         | 914         | .43  | 086        | 327  | 57  |
|              | 022     | 990       | .25  | 641     | 009         | .17  | 171         | 940         |      | 060        | 320  | 56  |
| 5            | 045     | 965       | .27  | 623     | 9.88999     |      | 220         | 966         |      | 034        | 312  | 55  |
| 6            | 068     | 981       | .25  | 605     | 989         | .18  | 268         | 992         |      | 008        |  | 54  |
| 7            | 090     | 996       | .27  | 586     | 978         | .17  | 316         | 9.91 018    | 40   |            | 305  |     |
| 8            | 113     | 9.80 012  | .25  | 568     | 968         | .11  | 1           |             | .42  | 0.08 982   | 298  | 53  |
| 9            | 135     |           |      | 1       |             |      | 364         | 043         | .43  | 957        | 290  | 52  |
|              | 100     | 027       | .27  | 550     | 958         |      | 413         | 069         |      | 931        | 283  | 51  |
| 10           | .63 158 | 9.80 043  | .25  | .77 531 | 9.88948     | .18  | .81 461     | 9.91 095    | .43  | 0.08 905   | 1.2276   | 50  |
| 11           | 180     | 058       | .27  | 513     | 937         | .17  | 510         | 121         | .10  | 879        | 268  | 49  |
| 12           | 203     | 074       | .25  | 494     | 927         | .11  | ,           |             | 40   |            |  |     |
| 13           | 225     | 089       | .27  | 1       |             | -10  | 558         | 147         | .42  | 853        | 261  | 48  |
| 14           |         |           |      | 476     | 917         | .18  | 606         | 172         | .43  | 828        | 254  | 47  |
| 14           | 248     | 105       | .25  | 458     | 906         | .17  | 655         | 198         |      | 802        | 247  | 46  |
| 15           | 271     | 120       | .27  | 439     | 896         |      | 703         | 224         |      | 776        | 239  | 45  |
| 16           | 293     | 136       | .25  | 421     | 886         | .18  | 752         | 250         |      | 750        | 232  | -1  |
| 17           | 316     | 151       | .=0  | 402     | 875         |      | 800         |             | 40   |            |  | 44  |
| 18           | 338     | 166       | ΩĦ   | 384     |             | .17  | 1           | 276         | .42  | 724        | 225  | 43  |
| 19           |         |           | .27  | 1       | 865         |      | 849         | 301         | .43  | 699        | 218  | 42  |
|              | 361     | 182       | .25  | 366     | 855         | .18  | 898         | 327         |      | 673        | 210  | 41  |
| 20           | .63 383 | 9.80 197  | .27  | .77 347 | 9.88 844    | .17  | .81 946     | 9.91 353    | .43  | 0.08 647   | 1.2203   | 40  |
| 21           | 406     | 213       | .25  | 329     | 834         |      | 995         | 379         | .42  | 621        |  | 39  |
| 22           | 428     | 228       | .27  | 310     | 824         | 10   | 1           |             |      |            | 196  |     |
| 23           | 451     |           |      | 1       |             | .18  | .82 044     | 404         | .43  | 596        | 189  | 38  |
| 1            |         | 244       | .25  | 292     | 813         | .17  | 092         | 430         |      | 570        | 181  | 37  |
| 24           | 473     | 259       |      | 273     | 803         |      | 141         | 456         |      | 544        | 174  | 36  |
| 25           | 496     | 274       | .27  | 255     | 793         | .18  | 190         | 482         | .42  | 518        | 167  | 35  |
| 26           | 518     | 290       | .25  | 236     | 782         | .17  | 238         | 507         | .43  |            |  | 34  |
| 27           | 540     | 305       | .20  | 218     | 772         |      |             |             | .45  | 493        | 160  |     |
| 28           |         |           |      | 1       |             | .18  | 287         | 533         |      | 467        | 153  | 33  |
|              | 563     | 320       | .27  | 199     | 761         | .17  | 336         | 559         |      | 441        | 145  | 32  |
| 29           | 585     | 336       | .25  | 181     | 751         |      | 385         | 585         | .42  | 415        | 138  | 31  |
| 30           | .63 608 | 9.80 351  | .25  | .77 162 | 9.88 741    | .18  | .82 434     | 9.91 610    | .43  | 0.08 390   | 1.2131   | 30  |
| 31           | 630     | 366       | .27  | 144     | 730         | .17  | 483         | 636         | .10  |            |  | 29  |
| 32           | 653     | 382       |      | 1       |             |      | 1           |             |      | 364        | 124  |     |
| 1            |         |           | .25  | 125     | 720         | .18  | 531         | . 662       |      | 338        | 117  | 28  |
| 33           | 675     | 397       | _    | 107     | 709         | .17  | 580         | 688         | .42  | 312        | 109  | 27  |
| 34           | 698     | 412       | .27  | 088     | 699         | .18  | 629         | 713         | .43  | 287        | 102  | 26  |
| 35           | 720     | 428       | .25  | 070     | 688         | .17  | 678         | 739         |      | 261        | 095  | 25  |
| 36           | 742     | 443       | .=-  | 051     | 678         |      | 727         | 765         |      | 235        |  | 24  |
| 37           | 765     | 458       |      | 1       |             | 40   | 1           |             | 40   |            | 088  |     |
| 1            |         |           | ~-   | 033     | 668         | .18  | 776         | 791         | .42  | 209        | 081  | 23  |
| 38           | 787     | 473       | .27  | 014     | 657         | .17  | 825         | 816         | .43  | 184        | 074  | 22  |
| 39           | 810     | 489       | .25  | .76 996 | 647         | .18  | 874         | 842         |      | 158        | 066  | 21  |
| £0           | .63 832 | 9.80 504  | .25  | .76 977 | 9.88 636    | .17  | .82 923     | 9.91 868    | .42  | 0.08 132   | 1.2059   | 20  |
| 11           | 854     | 519       | .20  | 959     | 626         | .18  | 972         | 893         | .43  | 107        |  | 19  |
| 12           | 877     | 534       | 07   |         |             |      | 1           |             | .40  |            | 052  |     |
| 1            |         |           | .27  | 940     | 615         | .17  | .83 022     | 919         |      | 081        | 045  | 18  |
| 13           | 899     | 550       | .25  | 921     | 605         | .18  | 071         | 945         |      | 055        | 038  | 17  |
| 4            | 922     | $\bf 565$ |      | 903     | $\bf 594$   | .17  | 120         | 971         | .42  | 029        | 031  | 16  |
| 15           | 944     | 580       |      | 884     | 584         | .18  | 169         | 996         | .43  | 004        | 024  | 15  |
| 16           | 966     | 595       |      | 866     | 573         |      |             | $9.92\ 022$ | .10  | 0.07 978   |  | 14  |
|              |         |           |      |         |             | .17  | 218         |             |      |            | 017  |     |
| 17           | 989     | 610       | -    | 847     | 563         | .18  | 268         | 048         | .42  | 952        | 009  | 13  |
| 18           | .64 011 | 625       | .27  | 828     | 552         | .17  | 317         | 073         | .43  | 927        | 002  | 12  |
| 9            | 033     | 641       | .25  | 810     | $\bf 542$   | .18  | 366         | 099         |      | 901        | 1.1995   | 11  |
| 0            | .64 056 | 9.80 656  | .25  | .76 791 | 9.88 531    | .17  | .83 415     | $9.92\ 125$ | .42  | 0.07 875   | 1.1988   | 10  |
| 1            | 078     | 671       | .20  | 772     | 521         | .18  | 465         | 150         | .43  | 850        | 981  | 9   |
| 2            |         |           |      |         |             | .10  |             |             | .40  |            |  | 8   |
|              | 100     | 686       |      | 754     | 510         |      | 514         | 176         |      | 824        | 974  |     |
| 3            | 123     | 701.      |      | 735     | . 499       | .17  | 56 <b>4</b> | 202         | .42  | 798        | 967  | 7   |
| 4            | 145     | 716       |      | 717     | 489         | .18  | 613         | 227         | .43  | 773        | 960  | 6   |
| 5            | 167     | 731       |      | 698     | 478         | .17  | 662         | 253         |      | 747        | 953  | 5   |
| 6            |         |           | ο~   |         |             |      |             |             | 40   |            |  | 4   |
|              | 190     | 746       | .27  | 679     | 168         | .18  | 712         | 279         | .42  | 721        | 946  |     |
| 7            | 212     | 762       | .25  | 661     | 457         | .17  | 761         | 304         | .43  | 696        | 939  | 3   |
| 8            | 234     | 777       |      | 642     | 447         | .18  | 811         | 330         |      | 670        | 932  | 2   |
| 59           | 256     | 792       |      | 623     | 436         |      | 860         | 356         | .42  | <b>644</b> | 925  | 1   |
| 30           | .64 279 | 9.80 807  |      | .76 604 | $9.88\ 425$ |      | .83 910     | 9.92 381    |      | 0.07 619   | 1.1918   | 0   |
| 200          | Nat.    | Log.      | Dif. | Nat.    | Log.        | Dif. | Nat.        | Log.        | Dif. | Log.       | Nat.   | 50  |
| 29°          |         | Cosines.  |      |         |             |      |             |             |      | TANGE      | NAME OF THE OWNER OWNER O | 90, |
|              |         | LUNINES   |      |         | SINES.      |      |             | NGENTS.     |      |            |  |     |

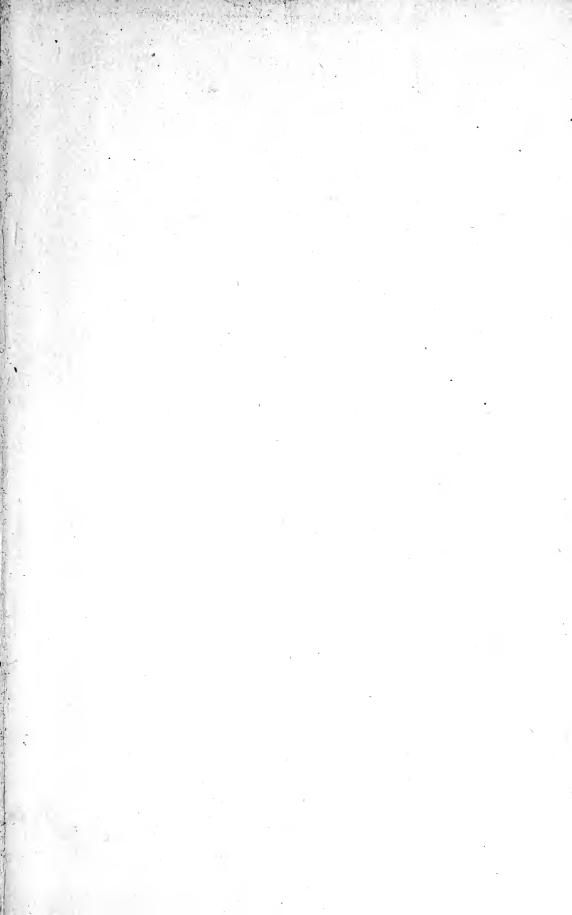
| $40^{\circ}$    |                 | Sines.      |       |         | Cosines.   |      | TAN     | GENTS.      |         | Cotangents. |            | 13       |
|-----------------|-----------------|-------------|-------|---------|------------|------|---------|-------------|---------|-------------|------------|----------|
| 10              | Nat.            | Log.        | Dif.  | Nat.    | Log.       | Dif. | Nat.    | Log.        | Dif.    | Log.        | Nat.       | 10.      |
| 0'              | .64 279         | 9.80 807    | .25   | .76 604 | 9.88 425   | .17  | .83 910 | 9.92 381    | .43     | 0.07 619    | 1.1918     | 60       |
| 1               | 301             | 822         |       | 586     | 415        | .18  | 960     | 407         |         | 593         | 910        | 5        |
| 2               | 323             | 837         |       | 567     | 404        | 1.17 | .84 009 | 433         | .42     | 567         | 903        | 58       |
| 3               | 346             | 852         |       | 548     | 394        | .18  | 059     | 458         | .43     | $\bf 542$   | 896        | 5        |
| 4               | 368             | 867         |       | 530     | 383        |      | 108     | 484         |         | 516         | 889        | 56       |
|                 |                 |             |       |         |            | 4.50 |         |             | 40      |             |            | 5.       |
| 5               | 390             | 882         |       | 511     | 372        | .17  | 158     | 510         | .42     | 490         | 882        |          |
| 6               | 412             | 897         |       | 492     | 362        | .18  | 208     | 535         | .43     | 465         | 875        | 5.       |
| 7               | 435             | 912         |       | 473     | 351        |      | 258     | 561         |         | 439         | 868        | 5        |
| 8               | 457             | 927         |       | 455     | 340        | .17  | 307     | 587         | .42     | 413         | 861        | 5        |
| 9               | 479             | 942         |       | 436     | 330        | .18  | 357     | 612         | .43     | 388         | 854        | 5        |
| 10              | .64 501         | 9.80 957    | .25   | .76 417 | 9.88 319   | .18  | .84 407 | 9.92 638    | .42     | $0.07\ 362$ | 1.1847     | 5        |
| 11              | 524             | 972         |       | 398     | 308        | .17  | 457     | 663         | .43     | 337         | 840        | 49       |
| 12              | 546             | 987         |       | 380     | 298        | .18  | 507     | 689         |         | 311         | 833        | 4        |
| 13              | 568             | 9.81 002    |       | 361     | 287        |      | 556     | 715         | .42     | 285         | 826        | 4        |
| 14              | 590             | 017         |       | 842     | 276        | .17  | 606     | 740         | .43     | 260         | 819        | 4        |
| 1               |                 |             |       |         |            |      |         |             |         |             |            |          |
| 15              | 612             | 032         |       | 323     | 266        | .18  | 656     | 766         |         | 234         | 812        | 4        |
| 16              | 635             | 047         | .23   | 304     | 255        |      | 706     | 792         | .42     | 208         | 806        | 4        |
| 17              | 657             | 061         | .25   | 286     | 244        | .17  | 756     | 817         | .43     | 183         | 799        | 4        |
| 18              | 679             | 076         |       | 267     | 234        | .18  | 806     | 843         | .42     | 157         | 792        | 4        |
| 19              | 701             | 091         |       | 248     | 223        |      | 856     | 868         | .43     | 132         | 785        | 4        |
| 20              | .64 723         | 9.81 106    | .25   | .76 229 | 9.88 212   | .18  | .84 906 | 9.92 894    | .43     | 0.07 106    | 1.1778     | 4        |
| 21              | 746             | 121         | .20   | 210     | 201        | .17  | 956     | 920         | .42     | 0.01 100    | 771        | 3        |
| 21 22           | 768             | 136         |       | 192     | 191        | .18  | .85 006 | 945         | .43     | 055         | 764        | 3        |
| 22 23           | 790             | 151         |       | 173     | 180        |      | 057     | 971         | .43     | 029         | 757        | 3        |
| $\frac{23}{24}$ |                 | 166         | .23   | 154     | 169        | •    | 107     | 996         | .43     | 004         | 750        | 3        |
| 24              | 812             | 100         | .23   | 104     | 169        |      | 101     |             | .45     |             |            |          |
| 25              | 834             | 180         | .25   | 185     | 158        | .17  | 157     | $9.93\ 022$ |         | 0.06978     | 743        | 3        |
| 26              | 856             | 195         |       | 116     | 148        | .18  | 207     | 048         | .42     | 952         | 736        | 3        |
| 27              | 878             | 210         |       | 097     | 137        |      | 257     | 073         | .43     | 927         | 729        | 3        |
| 28              | 901             | 225         |       | 078     | 126        |      | 308     | 099         | .42     | 901         | 722        | 3        |
| 29              | 923             | 240         | .23   | 059     | 115        | .17  | 358     | 124         | .43     | 876         | 715        | 3        |
|                 |                 |             |       |         |            |      |         |             |         |             |            | 3        |
| 30              | .64 945         | 9.81 254    | .25   | .76 041 | 9.88 105   | .18  | .85 408 | 9.93 150    | .42     | 0.06 850    | 1.1708     |          |
| 31              | 967             | 269         |       | 022     | 094        |      | 458     | 175         | .43     | 825         | 702        | 2        |
| 32              | 989             | 284         |       | 003     | 083        |      | 509     | 201         |         | 799         | 695        | 2        |
| 33              | .65 011         | 299         |       | .75 984 | 072        |      | 559     | 227         | .42     | 773         | 688        | 2        |
| 34              | 033             | 314         | .23   | 965     | 061        | .17  | 609     | 252         | .43     | 748         | 681        | 2        |
| 35              | 055             | 328         | .25   | 946     | 051        | .18  | 660     | 278         | .42     | 722         | 674        | 2        |
| 36              | 077             | 343         |       | 927     | 040        |      | 710     | 303         | .43     | 697         | 667        | 2        |
| 37              | 100             | 358         | .23   | 908     | 029        |      | 761     | 329         | .42     | 671         | 660        | 2        |
| 38              | 122             | 372         | .25   | 889     | 018        |      | 811     | 354         | .43     | 646         | 653        | 2        |
| 39              | 144             | 387         | .20   | 870     | 007        |      | 862     | 380         | • • • • | 620         | 647        | 2        |
| - 1             |                 |             |       |         |            |      |         |             |         |             |            | 1        |
| 40              | $.65\ 166$      | $9.81\ 402$ | .25   | .75 851 | 9.87996    | .18  | .85 912 | $9.93\ 406$ | .42     | 0.06594     | 1.1640     | 2        |
| 41              | 188             | 417         | .23   | 832     | <b>985</b> | .17  | 963     | 431         | .43     | 569         | 633        | 1        |
| 42              | 210             | 431         | .25   | 813     | 975        | .18  | .86 014 | 457         | .42     | 543         | 626        | 1        |
| 43              | 232             | 446         |       | 794     | 964        |      | 064     | 482         | .43     | 518         | 619        | 1        |
| 44              | 254             | 461         | .23   | 775     | 953        |      | 115     | 508         | .42     | 492         | 612.       | 1        |
| 45              | 276             | 475         | .25   | 756     | 942        |      | 166     | 533         | .43     | 467         | 606        | 1        |
|                 | 298             | 490         | .20   | 1       | 931        |      | 216     | 559         | .42     | 441         | 599        | 1.       |
| 46              |                 |             | 00    | 738     |            |      | 1       |             |         | 416         | 599<br>592 | 1        |
| 47              | 820             | 505         | .23   | 719     | 920        |      | 267     | 584         | .43     |             |            | 1        |
| 48              | 342             | 519         | .25   | 700     | 909        |      | 318     | 610         | 40      | 390         | 585        | 1        |
| 49              | 36 <del>4</del> | 534         |       | 680     | 898        |      | 368     | 636         | .42     | 364         | 578        | 1        |
| 50              | $.65\ 386$      | $9.81\ 549$ | .23   | .75 661 | 9.87887    | .17  | .86 419 | $9.93\ 661$ | .43     | $0.06\ 339$ | 1.1571     | 1        |
| 51              | 408             | 563         | .25   | 642     | 877        | .18  | 470     | 687         | .42     | 313         | 565        |          |
| 52              | 430             | 578         | .23   | 628     | 866        |      | 521     | 712         | .43     | 288         | 558        | 1        |
| 53              | 452             | 592         | .25   | 604     | 855        |      | 572     | 738         | .42     | 262         | 551        |          |
| 54              | 474             | 607         |       | 585     | 844        |      | 623     | 763         | .43     | 237         | 544        |          |
| - 1             |                 |             |       |         |            |      |         |             |         |             |            | l        |
| 55              | 496             | 622         | .23   | 566     | 833        |      | 674     | 789         | .42     | 211         | 538        |          |
| 56              | 518             | 636         | .25   | 547     | 822        |      | 725     | 814         | .43     | 186         | 581        |          |
| 57              | 540             | 651         | .23   | 528     | 811        |      | 776     | 840         | .42     | 160         | 524        |          |
| 58              | 562             | 665         | .25   | 509     | 800        |      | 827     | 865         | .43     | 135         | 517        |          |
| 59              | 584             | 680         | .23   | 490     | 789        |      | 878     | 891         | .42     | 109         | 510        |          |
| 60              | .65 606         | 9.81 694    |       | .75 471 | 9.87 778   |      | .86 929 | 9.93 916    |         | 0.06 084    | 1.1504     |          |
| !               |                 | T           | T)//E | N-4     | Tog        | Die  | Nat.    | Log.        | Dif.    | Log.        | Nat.       | <u> </u> |
| 30°             | Nat.            | Log.        | Dif.  | Nat.    | Log.       | Dif. | Trat.   | Log.        | DII.    | Log.        | TARE.      | 49       |

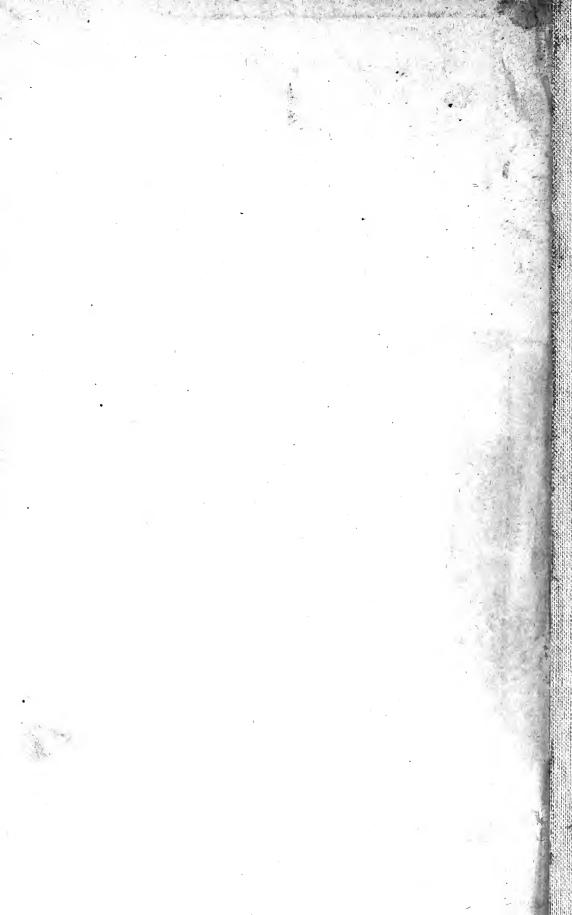
| 41° |         | SINES.   |      |         | Cosines.   |      | TAN     | GENTS.            |      | Cotan       | GENTS. | 1200     |
|-----|---------|----------|------|---------|------------|------|---------|-------------------|------|-------------|--------|----------|
|     | Nat.    | Log.     | Dif. | Nat.    | Log.       | Dif. | Nat.    | Log.              | Dif. | Log.        | Nat.   | 138      |
| 0'  | .65 606 | 9.81 694 | .25  | .75 471 | 9.87 778   | .18  | .86 929 | 9.93 916          | .43  | 0.00.004    |        | <u> </u> |
| 1   | 628     | 709      | .23  | 452     | 767        | .10  | 980     | 942               | .43  | 0.06 084    | 1.1504 | 60'      |
| 2   | 650     | 723      | .25  | 433     | 756        |      | .87 031 | 967               | .43  | 058         | 497    | 59       |
| 3   | 672     | 738      | .23  | 414     | 745        |      | 082     |                   |      | 033         | 490    | 58       |
| 4   | 694     | 752      | .25  | 395     | 734        |      | 133     | $993$ $9.94\ 018$ | .42  | 007         | 483    | 57       |
| =   |         |          |      |         |            |      |         |                   | .43  | $0.05\ 982$ | 477    | 56       |
| 5   | 716     | 767      | .23  | 375     | 723        |      | 184     | 044               | .42  | 956         | 470    | 55       |
| 6   | 738     | 781      | .25  | 356     | 712        |      | 236     | 069               | .43  | 931         | 463    | 54       |
| 7   | 759     | 796      | .23  | 337     | 701        |      | 287     | 095               | .42  | 905         | 456    | 53       |
| 8   | 781     | 810      | .25  | 318     | 690        |      | 338     | 120               | .43  | 880         | 450    | 52       |
| 9   | 803     | 825      | .23  | 299     | 679        |      | 389     | 146               | .42  | 854         | 443    | 51       |
| 10  | .65 825 | 9.81 839 | .25  | .75 280 | 9.87 668   | .18  | .87 441 | 9.94 171          | .43  | 0.05 829    | 1.1436 | 50       |
| 1.1 | 847     | 854      | .23  | 261     | 657        | •••  | 492     | 197               | .42  | 803         |        | 1        |
| 12  | 869     | 868      |      | 241     | 646        |      | 543     | $\frac{131}{222}$ | .43  |             | 430    | 49       |
| 13  | 891     | 882      | .25  | 222     | 635        |      | 595     | 248               |      | 778         | 423    | 48       |
| 14  | 913     | 897      | .23  | 203     | 624        |      |         |                   | .42  | 752         | 416    | 47       |
|     |         |          |      | 1       |            |      | 646     | 273               | .43  | 727         | 410    | 46       |
| 15  | 935     | 911      | .25  | 184     | 613        | .20  | 698     | 299               | .42  | 701         | 403    | 45       |
| 16  | 956     | 926      | .23  | 165     | 601        | .18  | 749     | 324               | .43  | 676         | 396    | 44       |
| 17  | 978     | 940      | .25  | 146     | 590        |      | 801     | 350               | .42  | 650         | 389    | 43       |
| 18  | .66 000 | 955      | .23  | 126     | 579        |      | 852     | 375               | .43  | 625         | 383    | 42       |
| 19  | 022     | 969      |      | 107     | 568        |      | 904     | 401               | .42  | 599         | 376    | 41       |
| 20  | .66 044 | 9.81 983 | .25  | .75 088 | 9.87 557   | 10   |         |                   |      |             |        | 1        |
| 21  | 066     | 998      | .23  | 069     |            | .18  | .87 955 | 9.94 426          | .43  | 0.05 574    | 1.1369 | 40       |
| 22  | 088     | 9.82 012 | .20  | 069     | 546<br>535 |      | .88 007 | 452               | .42  | 548         | 363    | 39       |
| 23  | 109     | 026      | 05   | 1       |            |      | 059     | 477               | .43  | 523         | 356    | 38       |
| 24  | 181     |          | .25  | 030     | 524        |      | 110     | 503               | .42  | 497         | 349    | 37       |
|     | 151     | 041      | .23  | 011     | 513        | .20  | 162     | 528               | .43  | 472         | 343    | 36       |
| 25  | 153     | 055      |      | .74 992 | 501        | .18  | 214     | $\bf 554$         | .42  | 446         | 336    | 35       |
| 26  | 175     | 069      | .25  | 973     | 490        |      | 265     | 579               |      | 421         | 329    | 34       |
| 27  | 197     | 084      | .23  | • 953   | 479        |      | 317     | 604               | .43  | 396         | 323    | 33       |
| 28  | 218     | 098      |      | 934     | 468        |      | 369     | 630               | .42  | 370         | 316    | 32       |
| 29  | 240     | 112      |      | 915     | 457        |      | 421     | 655               | .43  | 345         | 310    | 31       |
| 30  | .66 262 | 9.82 126 | 05   | 1       |            |      |         |                   |      |             |        |          |
| 31  |         |          | .25  | .74 896 | 9.87 446   | .20  | .88 473 | 9.94 681          | .42  | 0.05 319    | 1.1303 | 30       |
|     | 284     | 141      | .23  | 876     | 434        | .18  | 524     | 706               | .43  | 294         | 296    | 29       |
| 32  | 306     | 155      |      | 857     | 423        |      | 576     | 732               | .42  | 268         | 290    | 28       |
| 33  | 327     | 169      | .25  | 838     | 412        |      | 628     | 757               | .43  | <b>243</b>  | 283    | 27       |
| 34  | 349     | 184      | .23  | 818     | 401        |      | 680     | 783               | .42  | 217         | 276    | 26       |
| 35  | 371     | 198      |      | 799     | 390        | .20  | 732     | 808               | .43  | 192         | 270    | 25       |
| 36  | 393     | 212      |      | 780     | 378        | .18  | 784     | 834               | .42  | 166         | 263    | 24       |
| 37  | 414     | 226      |      | 760     | 367        |      | 836     | 859               |      | 141         | 257    | 23       |
| 38  | 436     | 240      | .25  | 741     | 356        |      | 888     | 884               | .43  | 116         | 250    | 22       |
| 39  | 458     | 255      | .23  | 722     | 345        |      | 940     | 910               | .42  | 090         | 243    | 21       |
|     |         |          |      |         |            |      |         |                   |      |             |        |          |
| 40  | .66 480 | 9.82 269 | .23  | .74 703 | 9.87 334   | .20  | .88 992 | 9.94 935          | .43  | $0.05\ 065$ | 1.1237 | 20       |
| 41  | 501     | 283      |      | 683     | 322        | .18  | .89 045 | 961               | .42  | 039         | 230    | 19       |
| 42  | 523     | 297      |      | 664     | 311        |      | 097     | 986               | .43  | 014         | 224    | 18       |
| 43  | 545     | 311      | .25  | 644     | 300        | .20  | 149     | $9.95\ 012$       | .42  | 0.04988     | 217    | 17       |
| 44  | 566     | 326      | .23  | 625     | 288        | .18  | 201     | 037               |      | 963         | 211    | 16       |
| 45  | 588     | 340      |      | 606     | 277        |      | 253.    | 062               | .43  | 938         | 204    | 15       |
| 46  | 610     | 354      |      | 586     | 266        |      | 306     | 088               | .42  | 912         | 197    | 14       |
| 47  | 632     | 368      |      | 567     | 255        | .20  | 358     | 113               | .43  | 887         | 191    | 13       |
| 48  | 653     | 382      |      | 548     | 243        | .18  | 410     | 139               | .42  | 861         | 184    | 12       |
| 49  | 675     | 396      |      | 528     | 232        | .10  | 463     | 164               | .43  | 836         | 178    | 11       |
| 1   |         |          |      |         |            |      |         |                   |      |             |        |          |
| 50  | .66 697 | 9.82 410 | .23  | .74 509 | 9.87 221   | .20  | .89 515 | 9.95 190          | .42  | 0.04 810    | 1.1171 | 10       |
| 51  | 718     | 424      | .25  | 489     | 209        | .18  | 567     | 215               |      | 785 -       | 165    | 9        |
| 52  | 740     | 439      | .23  | 470     | 198        |      | 620     | <b>240</b>        | .43  | 760         | 158    | 8        |
| 53  | 762     | 453      |      | 451     | 187        | .20  | 672     | 266               | .42  | 734         | 152    | 7        |
| 54  | 783     | 467      |      | 431     | 175        | .18  | 725     | 291               | .43  | 709         | 145    | 6        |
| 55  | 805     | 481      |      | 412     | 164        |      | 777     | 317               | .42  | 683         | 139    | 5        |
| 56  | 827     | 495      |      | 392     | 153        | .20  | 830     | 342               | .43  | 658         | 132    | 4        |
| 57  | 848     | 509      |      | 373     | 141        | .18  | 883     | 368               | .42  | 632         | 126    | 3        |
| 58  |         | 523      |      | 353     | 130        | .10  |         |                   | .42  |             |        | 2        |
|     | 870     |          |      |         |            | 90   | 935     | 393               | 40   | 607         | 119    | 1        |
| 59  | 891     | 537      |      | 334     | 119        | .20  | 988     | 418               | .43  | 582         | 113    |          |
| 60  | .66 913 | 9.82 551 |      | .74 314 | 9.87 107   |      | .90 040 | 9.95 444          |      | 0.04 556    | 1.1106 | Ó        |
| 31° | Nat.    | Log.     | Dif. | Nat.    | Log.       | Dif. | Nat.    | Log.              | Dif. | Log.        | Nat.   | 48°      |
|     |         |          |      |         |            |      |         |                   |      |             |        | 40       |
| 191 |         | Cosines. |      |         | SINES.     | - 1  | COTA    | NGENTS.           |      | TANGE       | NTS.   |          |

| $42^{\circ}$ |         | SINES.      |        |         | Cosines.     |      |         |                    |      | COTANGENTS.      |        | 13  |
|--------------|---------|-------------|--------|---------|--------------|------|---------|--------------------|------|------------------|--------|-----|
| T2           | Nat.    | Log.        | Dif.   | Nat.    | Log.         | Dif. | Nat.    | Log.               | Dif. | Log.             | Nat.   | 13  |
| 0'           | .66 913 | 9.82 551    | .23    | .74 814 | 9.87 107     | .18  | .90 040 | 9.95 444           | .42  | 0.04 556         | 1.1106 | 6   |
| 1            | 935     | 565         |        | 295     | 096          |      | 093     | 469                | .43  | 531              | 100    | 59  |
| $^{-2}$      | 956     | 579         |        | 276     | 085          | .20  | 146     | 495                | .42  | 505              | 093    | 58  |
| 3            | 978     | 593         |        | 256     | 073          | .18  | 199     | 520                |      | 480              | 087    | 5   |
| 4            | 999     | 607         |        | 237     | 062          | .20  | 251     | 545                | .43  | 455              | 080    | 5   |
|              |         |             |        | 1       |              |      |         |                    |      |                  |        |     |
| 5            | .67 021 | 621         |        | . 217   | 050          | .18  | 304     | 571                | .42  | 429              | 074    | 5   |
| 6            | 043     | 635         |        | 198     | 039          |      | 357     | 596                | .43  | 404              | 067    | 5.  |
| 7            | 064     | 649         |        | 178     | 028          | .20  | 410     | 622                | .42  | 378              | 061    | 5   |
| 8            | 086     | 663         |        | 159     | 016          | .18  | 463     | 647                |      | 353              | 054    | 5   |
| 9            | 107     | 677         |        | 139     | 005          | .20  | 516     | 672                | .43  | 328              | 048    | 5   |
| 10           | .67 129 | $9.82\ 691$ | .23    | .74 120 | 9.86993      | .18  | .90 569 | $9.95\ 698$        | .42  | $0.04\ 302$      | 1.1041 | 5   |
| 11           | 151     | 705         |        | 100     | 982          | .20  | 621     | 723                |      | 277              | 035    | 4   |
| 12           | 172     | 719         |        | 080     | 970          | .18  | 674     | 748                | .43  | 252              | 028    | 4   |
| 13           | 194     | 733         |        | 061     | 959          | .20  | 727     | 774                | .42  | 226              | 022    | 4   |
| 14           | 215     | 747         |        | 041     | 947          | .18  | 781     | 799                | .43  | 201              | 016    | 4   |
| 15           | 237     | 761         |        | 022     | 936          | .20  | 834     | 825                | .42  | 175              | 009    | 4   |
| 16           | 258     | 775         | .22    | 002     | 924          | .18  | 887     | 850                |      | 150              | 003    | 4   |
| 17           | 280     | 788         | .23    | .73 983 | 913          |      | 940     | 875                | .43  | 125              | 1.0996 | 4   |
| 18           | 301     | 802         | 0      | 963     | 902          | .20  | 993     | 901                | .42  | 099              | 990    | 4   |
| 19           | 323     | 816         |        | 944     | 890          | .18  | .91 046 | 926                | .43  | 074              | 983    | 4   |
| 20           | .67 344 | 9.82 830    | .23    | .73 924 | 9.86 879     | .20  | .91 099 | 9.95 952           | .42  | 0.04 048         |        |     |
| 21           | 366     | 9.82 830    | .23    | 904     | 9.86 879     | .20  | .91 099 | 9.95 952           | .42  | $0.04048 \\ 023$ | 1.0977 | 4   |
| 22           | 366     | 858         |        | 885     |              | 10   |         |                    | 40   |                  | 971    | 3   |
| 22           |         | 858<br>872  | 00     |         | $855 \\ 844$ | .18  | 206     | 9.96 002           | .43  | 0.03 998         | 964    | 3   |
|              | 409     |             | .22    | 865     |              | .20  | 259     | 028                | .42  | 972              | 958    | 3   |
| 24           | 430     | 885         | .23    | 846     | 832          | .18  | 313     | 053                |      | 947              | 951    | 3   |
| 25           | 452     | 899         |        | S26     | 821          | .20  | 366     | 078                | .43  | 922              | 945    | 3   |
| 26           | 473     | 913         |        | 806     | 809          | .18  | 419     | 104                | .42  | 896              | 939    | 3   |
| 27           | 495     | 927         |        | 787     | 798          | .20  | 473     | 129                | .43  | 871              | 932    | 3   |
| 28           | 516     | 941         |        | 767     | 786          | .18  | 526     | 155                | .42  | 845              | 926    | 3   |
| 29           | 538     | 955         | .22    | 747     | 775          | .20  | 580     | 180                |      | 820              | 919    | 3   |
| 30           | .67 559 | 9.82 968    | .23    | .73 728 | 9.86 763     | .18  | .91 633 | 9.96 205           | 40   |                  |        | 1   |
|              |         | 982         | .20    | 708     | 752          |      |         |                    | .43  | 0.03 795         | 1.0913 | 3   |
| 31           | 580     |             |        | 1       |              | .20  | 687     | 231                | .42  | 769              | 907    | 2   |
| 32           | 602     | 996         | 0.0    | 688     | 740          | 40   | 740     | 256                |      | 744              | 900    | 2   |
| 33           | 623     | 9.83 010    | .22    | 669     | 728          | .18  | 794     | 281                | .43  | 719              | 894    | 2   |
| 34           | 645     | 023         | .23    | 649     | 717          | .20  | 847     | 307                | .42  | 693              | 888    | 2   |
| 35           | 666     | 037         |        | 629     | 705          | .18  | 901     | 332                |      | 668              | 881    | 2   |
| 36           | 685     | 051         |        | 610     | 694          | .20  | 955     | 357                | .43  | 643              | 875    | 2   |
| 37           | 709     | 065         | .22    | 590     | 682          |      | .92 008 | 383                | .42  | 617              | 869    | 2   |
| 38           | 730     | 078         | .23    | 570     | 670          | .18  | 062     | 408                |      | 592              | 862    | 2   |
| 39           | 752     | 092         |        | 551     | 659          | .20  | 116     | 433                | .43  | 567              | 856    | 2   |
| 40           | .67 773 | 9.83 106    | .23    | .78 531 | 9.86 647     | .20  | .92 170 | $9.96\ 459$        | .42  | 0.03 541         | 1.0850 | 2   |
| 41           | 795     | 120         | .23    | 511     | 635          |      |         | 484                | .42  | 516              |        | 1   |
| 42           | 816     | 133         | .22    | 491     | 624          | .18  | 224     | $\frac{4.84}{510}$ |      |                  | 843    |     |
|              |         |             | .23    |         |              | .20  | 277     |                    | .42  | 490              | 837    | 1   |
| 43           | 837     | 147         | മര     | 472     | 612          | 40   | 331     | 535                | 40   | 465              | 881    | 1   |
| 44           | 859     | 161         | .22    | 452     | 600          | .18  | 385     | 560                | .43  | 440              | 824    | 1   |
| 45           | 850     | 174         | .23    | 432     | 589          | .20  | 439     | 586                | .42  | 414              | 818    | 1   |
| 46           | 901     | 188         |        | 413     | 577          |      | 493     | 611                |      | 389              | 812    | 1   |
| 47           | 923     | 202         | .22    | 393     | 565          | .18  | 547     | 636                | .43  | 364              | 805    | 1   |
| 48           | 944     | 215         | .23    | 373     | 554          | .20  | 601     | 662                | .42  | 338              | 799    | 1   |
| 49           | 965     | 229         | .22    | 353     | 542          |      | 655     | 687                |      | 313              | 793    | 1   |
| 50           | .67 987 | 9.83 242    | .23    | .73 333 | 9.86 530     | .20  | .92 709 | 9.96 712           | .43  | 0.03 288         | 1.0786 | 1   |
| 51           | .68 008 | 256         | . 40.5 | 314     | 518          | .18  | 763     | 738                | .42  | 262              | 780    | 1   |
| 52           | 029     | 270         | .22    | 294     | 507          | .20  | 817     | 763                |      | 237              | 774    |     |
| 53           | 051     | 283         | .23    | 274     | 495          |      | 872     | 788                | .43  | 212              | 768    |     |
| 54           | 072     | 297         | .20    | 254     | 483          | .18  | 926     | 814                | .49  | 186              | 761    |     |
|              |         |             |        |         |              |      |         |                    | .14  |                  |        | 1   |
| 55           | 093     | 310         | .23    | 284     | 472          | .20  | 980     | 839                |      | 161              | 1.0755 |     |
| 56           | 115     | 324         |        | 215     | 460          |      | .93 034 | 864                | .43  | 136              | 749    | -   |
| 57           | 136     | 338         | .22    | 195     | 448          |      | 058     | 890                | .42  | 110              | 742    |     |
| 58           | 157     | 351         | .23    | 175     | 436          | .18  | 143     | 915                |      | 085              | 736    | 1   |
| 59           | 179     | 365         | .22    | 155     | 425          | .20  | 197     | 940                | .43  | 060              | 730    |     |
| 60           | .68 200 | 9.83 378    |        | .73 135 | 9.86 413     |      | .93 252 | 9.96 966           |      | $0.03\ 034$      | 1.0724 |     |
| <br>32°      | Nat.    | Log.        | Dif.   | Nat.    | Log.         | Dif. | Nat.    | Log.               | Dif. | Log.             | Nat.   | 47  |
| 04           |         |             |        |         |              |      |         |                    |      |                  |        | 1 4 |

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|--------------|---------|----------|-------------|---------|-------------------|------|---------|-------------|------|--------------------|--------|-----|
|              | Nat.    | Log.     | Dif.        | Nat.    | Log.              | Dif. | Nat.    | Log.        | Dif. | Log.               | Nat.   | 130 |
| 0'           | .68 200 | 9.83 378 | .23         | .73 135 | 9.86 413          | 00   | 00.070  | 0.00000     |      |                    |        | i   |
| 1            | 221     | 392      |             | 116     | 9.86 413          | .20  | .93 252 | 9.96 966    | .42  | 0.03 034           | 1.0724 | 60  |
| 2            | 242     | 405      |             | 096     |                   |      | 306     | 991         |      | 009                | 717    | 59  |
| 3            | 264     | 419      |             | 076     | 389               | 10   | 360     | 9.97 016    | .43  | 0.02984            | 711    | 58  |
| 4            | 285     | 432      |             | 056     | 377               | .18  | 415     | 042         | .42  | 958                | 705    | 5   |
|              |         |          |             | 1       | 366               | .20  | 469     | 067         |      | 933                | 699    | 56  |
| 5            | 306     | 446      |             | 036     | 354               |      | 524     | 092         | .43  | 908                | 692    | 5   |
| 6            | 327     | 459      |             | 016     | 342               |      | 578     | 118         | .42  | 882                | 686    | 54  |
| 7            | 349     | 473      |             | .72 996 | 330               |      | 633     | 143         |      | 857                | 680    | 5:  |
| 8            | 370     | 486      | .23         | 976     | 318               |      | 688     | 168         |      | 832                | 674    | 5   |
| 9            | 391     | 500      | .22         | 957     | 306               | .18  | 742     | 193         | .43  | 807                | 668    | 5   |
| 10           | .68 412 | 9.83 513 | .23         | .72 937 | 9.86 295          | .20  | 00 707  |             |      |                    |        |     |
| 11           | 434     | 527      | .22         | 917     | 283               | .20  | .93 797 | 9.97 219    | .42  | 0.02781            | 1.0661 | 5   |
| 12           | 455     | . 540    | .23         | 897     | $\frac{283}{271}$ |      | 852     | 244         |      | 756                | 655    | 4:  |
| 13           | 476     | 554      | .22         | 1       |                   |      | 906     | 269         | .43  | 731                | 649    | 4   |
| 14           | 497     | 567      |             | 877     | 259               |      | 961     | 295         | .42  | 705                | 643    | 4   |
|              |         |          | .23         | 857     | 247               |      | .94 016 | 320         |      | 680                | 637    | 4   |
| 15           | 518     | 581      | .22         | 837     | 235               |      | 071     | 345         | .43  | 655                | 630    | 4   |
| 16           | 539     | 594      | .23         | 817     | 223               |      | 125     | 371         | .42  | 629                | 624    | 4   |
| 17           | 561     | 608      | .22         | 797     | 211               | .18  | 180     | 396         |      | 604                | 618    | 4   |
| 18           | 582     | 621      |             | 777     | 200               | .20  | 235     | 421         | .43  | 579                | 612    | 4   |
| 19           | 603     | 634      | <b>\2</b> 3 | 757     | 188               |      | 290     | 447         | .42  | 553                | 606    | 4   |
| 20           |         |          |             |         |                   |      | 1       |             |      |                    |        |     |
|              | .68 624 | 9.83 648 | .22         | .72 737 | 9.86 176          | .20  | .94 345 | $9.97\ 472$ | .42  | $0.02\;528$        | 1.0599 | 4   |
| 21           | 645     | 661      |             | 717     | 164               |      | 400     | 497         | .43  | 503                | 593    | 3   |
| 22           | 666     | 674      | .23         | 697     | 152               |      | 455     | 523         | .42  | 477                | 587    | 3   |
| 23           | 688     | 688      | .22         | 677     | 140               |      | 510     | 548         |      | 452                | 581    | 3   |
| 24           | 709     | 701      | .23         | 657     | 128               |      | 565     | 573         |      | 427                | 575    | 30  |
| 25           | 730     | 715      | .22         | 637     | 116               |      | 620     | 598         | .43  | 402                | 569    | 3   |
| 26           | 751     | 728      |             | 617     | 104               |      | 676     | 624         | .42  | 376                |        |     |
| 27           | 772     | 741      | .23         | 597     | 092               |      | 731     | 649         | .42  |                    | 562    | 3.  |
| 28           | 793     | 755      | .22         | 577     | 080               |      | 1       |             | 40   | 351                | 556    | 3:  |
| 29           | 814     | 768      | .22         | 557     |                   |      | 786     | 674         | .43  | 326                | 550    | 3:  |
|              |         |          |             | 994     | 068               |      | 841     | 700         | .42  | 300                | 544    | 3.  |
| 30           | .68 835 | 9.83781  | .23         | .72 537 | 9.86056           | .20  | .94 896 | 9.97725     | .42  | $0.02\ 275$        | 1.0538 | 3   |
| 31           | 857     | 795      | .22         | 517     | 044               |      | 952     | 750         | .43  | 250                | 532    | 2   |
| 32           | 878     | 808      |             | 497     | 032               |      | .95 007 | 776         | .42  | 224                | 526    | 28  |
| 33           | 899     | 821      |             | 477     | 020               |      | 062     | 801         |      | 199                | 519    | 2'  |
| 34           | 920     | 834      | .23         | 457     | 008               |      | 118     | 826         |      | 174                | 513    | 20  |
| 35           | 941     | 848      | .22         | 407     |                   |      | 1       |             |      |                    |        |     |
| 36           | 962     | 861      | .22         | 437     | 9.85 996          |      | 173     | 851         | .43  | 149                | 507    | 25  |
| 37           |         |          |             | 417     | 984               |      | 229     | 877         | .42  | 123                | 501    | 24  |
|              | 983     | 874      |             | 397     | 972               |      | 284     | 902         |      | 098                | 495    | 23  |
| 38           | .69 004 | 887      | .23         | 377     | 960               |      | 340     | 927         | .43  | 073                | 489    | 2:  |
| 39           | 025     | 901      | .22         | 357     | . 948             |      | 395     | 953         | .42  | 047                | 483    | 2   |
| 40           | .69 046 | 9.83914  | .22         | .72 337 | 9.85936           | .20  | .95 451 | 9.97978     | .42  | $0.02 \ 022$       | 1.0477 | 20  |
| 41           | 067     | 927      |             | 317     | 924               |      | 506     | 9.98 003    | .43  | 0.01 997           | 470    | 19  |
| 12           | 088     | 940      | .23         | 297     | 912               |      | 562     | 029         | .42  | 971                | 464    | 18  |
| 43           | 109     | 954      | .22         | 277     | 900               |      | 618     | 054         |      | 946                | 458    | 1'  |
| 14           | 130     | 967      |             | 257     | 888               |      | 673     | 079         |      | 921                | 452    | 16  |
|              |         |          |             |         |                   |      |         |             |      |                    |        |     |
| 15           | 151     | 980      |             | 236     | 876               |      | 729     | 104         | .43  | 896                | 446    | 15  |
| 16           | 172     | 993      |             | 216     | 864               | .22  | 785     | 130         | .42  | 870                | 440    | 14  |
| 17           | 193     | 9.84 006 | .23         | 196     | 851               | .20  | 841     | 155         |      | 845                | 434    | 13  |
| 18           | 214     | 020      | .22         | 176     | 839               |      | 897     | 180         | .43  | 820                | 428    | 12  |
| 19           | 235     | 033      |             | 156     | 827               |      | 952     | 206         | .42  | 794                | 422    | 11  |
| 50           | .69 256 | 9.84 046 | .22         | .72 136 | 9.85 815          | .20  | .96 008 | 9.98 231    | .42  | 0.01 769           | 1.0416 | 10  |
| 51           | 277     | 059      |             | 116     | 803               | .40  | 064     | 256         | . 14 | 744                | 410    | 9   |
| 52           | 298     | 072      |             | 095     | 791               |      | 120     | 281         | 19   | 719                | 404    | 8   |
| 53           | 319     | 085      |             | 075     | 779               | .22  |         | 307         | .43  | 693                | 398    | 7   |
| 54           |         |          | ല           |         |                   |      | 176     |             | .42  |                    |        | 6   |
| 1            | 340     | 098      | .23         | 055     | 766               | .20  | 232     | 332         |      | 668                | 392    |     |
| 55           | 361     | 112      | .22         | 035     | 754               |      | 288     | 357         | .43  | 643                | 385    | 5   |
| 66           | 382     | 125      |             | 015     | <b>742</b>        |      | 344     | 383         | .42  | 617                | 379    | 4   |
| 57           | 403     | 138      |             | .71 995 | 730               |      | 400     | 408         |      | $\boldsymbol{592}$ | 373    | 3   |
| 58           | 424     | 151      |             | 974     | 718               |      | 457     | 433         |      | 567                | 367    | 2   |
| 59           | 445     | 164      |             | 954     | 706               | .22  | 513     | 458         | .43  | ${\bf 542}$        | 361    | 1   |
| 30           | .69 466 | 9.84 177 |             | .71 934 | 9.85 693          |      | .96 569 | 9.98 484    |      | 0.01 516           | 1.0355 | 0   |
|              | Nat.    | Log      | Dif         | Net     | Tor               | Die  | Ne+     | Lon         | Die: | Log                | Nat.   |     |
| 33°          | Tvat.   | Log.     | Dif.        | Nat.    | Log.              | Dif. | Nat.    | Log.        | Dif. | Log.               |        | 46  |
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|------|------------|-------------|-------|---------|-------------|------|---------|-------------|------|-------------|--------|-----|
| 11   | Nat.       | Log.        | Dif.  | Nat.    | Log.        | Dif. | Nat.    | Log.        | Dif. | Log.        | Nat.   | 100 |
| 0'   | .69 466    | 9.84 177    | .22   | .71 934 | 9.85 693    | .20  | .96 569 | 9.98 484    | .42  | 0.01 516    | 1.0355 | 60  |
| 1    | 487        | 190         |       | 914     | 681         |      | 625     | 509         |      | 491         | 849    | 59  |
| 2    | 508        | 203         |       | 894     | 669         |      | 681     | 534         | .43  | 466         | 343    | 58  |
| 3    | 529        | 216         |       | 873     | 657         |      | 738     | 560         | .42  | 440         | 337    | 57  |
| 4    | 549        | 229         |       | 853     | 645         | .22  | 794     | 585         |      | 415         | 331    | 56  |
| 5    | 570        | 242         |       | 1       |             |      | 850     | 610         |      | 390         | 325    | 55  |
| 6    | 591        | 255         | .23   | 833     | 632         | .20  | 907     | 635         | .43  | 365         | 319    | 54  |
| 7    | 612        | 269         | .22   | 813     | 620         |      | 1       |             |      |             |        |     |
| 8    | 633        | 282         | .22   | 792     | 608         |      | 963     | 661         | .42  | 339         | 313    | 53  |
|      |            |             |       | 772     | 596         | .22  | .97 020 | 686         |      | 314         | 307    | 52  |
| 9    | 654        | 295         |       | 752     | 583         | .20  | 076     | 711         | .43  | 289         | 301    | 51  |
| 10   | $.69\ 675$ | $9.84\ 308$ | .22   | .71 732 | $9.85\ 571$ | .20  | .97 133 | 9.98737     | .42  | $0.01\ 263$ | 1.0295 | 50  |
| 11   | 696        | 321         |       | 711     | 559         |      | 189     | 762         |      | 238.        | 289    | 49  |
| 12   | 717        | 334         |       | 691     | 547         | .22  | 246     | 787         |      | 213         | 283    | 48  |
| 13   | 737        | 347         |       | 671     | 534         | .20  | 302     | 812         | .43  | 188         | 277    | 47  |
| 14   | 758        | 360         |       | 650     | 522         |      | 359     | 838         | .42  | 162         | 271    | 46  |
| 15   | 779        | 373         | .20   | 630     | 510         | .22  | 416     | 863         |      | 137         | 265    | 45  |
| 16   | 800        | 385         | .22   | 610     | 497         | .20  | 472     | 888         |      | 112         | 259    | 44  |
| 17   | 821        | 398         |       | 590     | 485         | .20  | 529     | 913         | .43  | 087         | 253    | 43  |
| 18   | 842        | 411         |       | 569     | 473         | ,22  | 586     | 939         | .42  | 061         | 247    | 42  |
| 19   | 862        | 424         |       | 549     | 460         | .20  | 643     | 964         | .42  | 036         | 241    | 41  |
|      |            |             |       | į .     |             |      |         |             |      |             |        |     |
| 20   | .69 883    | 9.84 437    | .22   | .71 529 | $9.85\ 448$ | .20  | .97 700 | 9.98 989    | .43  | 0.01 011    | 1.0235 | 4(  |
| 21   | 904        | 450         |       | 508     | 436         | .22  | 756     | 9.99 015    | .42  | 0.00985     | 230    | 38  |
| 22   | 925        | 463         |       | 488     | 423         | .20  | 813     | 040         |      | 960         | 224    | 38  |
| 23   | 946        | 476         |       | 468     | 411         |      | 870     | 065         |      | 935         | 218    | 37  |
| 24   | 966        | · 489       |       | 447     | 399         | .22  | 927     | 090         | .43  | 910         | 212    | 36  |
| 25   | 987        | 502         |       | 427     | 386         | .20  | 984     | 116         | .42  | 884         | 206    | 38  |
| 26   | .70 008    | 515         |       | 407     | 374         | .22  | .98 041 | 141         |      | 859         | 200    | 34  |
| 27   | 029        | 528         | .20   | 386     | 361         | .20  | 098     | 166         |      | 834         | 194    | 33  |
| 28   | 049        | 540         | .22   | 366     | 349         | .20  | 155     | 191         | .43  | 809         | 188    | 35  |
| 29   | 070        | 553         |       | 345     | 337         | 90   | 213     | 217         | .42  | 783         | 182    | 31  |
| 1    |            |             |       | 343     |             | .22  |         |             |      |             |        |     |
| 30   | .70091     | $9.84\ 566$ | .22   | .71 325 | 9.85 324    | .20  | .98 270 | $9.99\ 242$ | .42  | 0.00758     | 1.0176 | 30  |
| 31   | 112        | 579         |       | 305     | 312         | .22  | 327     | 267         | .43  | 733         | 170    | 29  |
| 32   | 132        | 592         |       | 284     | 299         | .20  | 384     | 293         | .42  | 707         | 164    | 28  |
| 33   | 153        | 605         |       | 264     | 287         | .22  | 441     | 318         |      | 682         | 158    | 2   |
| 34   | 174        | 618         | .20   | 243     | 274         | .20  | 499     | 343         |      | 657         | 152    | 20  |
| 35   | 195        | 630         | .22   | 223     | 262         |      | 556     | 368         | .43  | 632         | 147    | 25  |
| 36   | 215        | 643         |       | 203     | 250         | 00   | 613     | 394         | .42  | 606         | 141    | 24  |
| 37   | 236        | 656         |       | i       | 237         | .22  | 671     | 419         | .42  | 581         | 135    | 2:  |
| 38   | 257        | 669         |       | 182     |             | .20  | 728     | 444         |      | 556         | 129    | 2:  |
| 39   | 277        | 682         | .20   | 162     | 225         | .22  | 786     | 469         | .43  | 531         | 123    | 2   |
|      |            |             | .20   | 141     | 212         | .20  |         |             |      |             |        | 1   |
| 40   | $.70\ 298$ | 9.84 694    | .22   | .71 121 | $9.85\ 200$ | .22  | .98 843 | $9.99\ 495$ | .42  | $0.00\ 505$ | 1.0117 | 20  |
| 41   | 319        | 707         |       | 100     | 187         | .20  | 901     | 520         |      | 480         | 111    | 1   |
| 42   | 339        | 720         |       | 080     | 175         | .22  | 958     | 545         |      | 455         | 105    | 1   |
| 43   | 860        | 733         | ,20   | 059     | 162         | .20  | .99 016 | 5.70        | .43  | 430         | 099    | 1   |
| 44   | 381        | 745         | .22   | 039     | 150         | ,22  | 073     | 596         | .42  | 404         | 094    | 1   |
| 45   | .70 401    | 758         |       |         |             |      | 131     | 621         |      | 379         | 088    | 1   |
| 46   | 422        | 771         |       | 019     | 137         | .20  | 189     | 646         | .43  | 354         | 082    | 1.  |
|      | 443        | 784         | 90    | .70 998 | 125         | .22  | 247     | 672         | .42  | 328         | 076    | 1:  |
| 47   |            | 796         | .20   | 978     | 112         | .20  | 304     | 697         | .44  | 303         | 070    | 1:  |
| 48   | 463        |             | .22   | 957     | 100         | .22  | 1       |             |      |             |        |     |
| 49   | 484        | 809         |       | 937     | 087         |      | 362     | 722         |      | 278         | 064    | 1   |
| 50   | .70 505    | 9.84822     | .22   | .70 916 | $9.85\ 074$ | .20  | .99 420 | 9.99747     | .43  | $0.00\ 253$ | 1.0058 | 1   |
| 51   | 525        | 835         | .20   | 896     | 062         | .22  | 478     | 773         | .42  | 227         | 052    |     |
| 52   | 546        | 847         | .22   | 875     | 049         | .20  | 586     | 798         |      | 202         | 047    |     |
| 53   | 567        | 860         |       | 855     | 037         | .22  | 594     | 823         |      | 177         | 041    |     |
| 54   | 587        | 873         | .20   | 834     | 024         | .20  | 652     | 848         | .43  | 152         | 035    | (   |
|      |            |             |       |         |             |      |         |             |      | 126         | 029    |     |
| 55   | 608        | 885         | • .22 | 813     | 012         | .22  | 710     | 874         | .42  |             |        |     |
| 56   | 628        | 898         |       | 793     | 9.84 999    |      | 768     | 899         |      | 101         | 023    |     |
| 57   | 649        | 911         | .20   | 772     | 986         | .20  | 826     | 924         |      | 076         | 017    |     |
| 58   | 670        | 923         | .22   | 752     | 974         | .22  | 884     | 949         | .43  | 051         | 012    |     |
| 59   | 690        | 936         |       | 731     | 961         | .20  | 942     | 975         | .42  | 025         | 006    |     |
| 60   | .70 711    | 9.84 949    |       | .70 711 | 9.84 949    |      | 1,0000  | 0.00 000    |      | 0.00 000    | 1.0000 | (   |
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